Telefónica UK's response to:

Second consultation on assessment of future mobile competition and proposals for the award of 800MHz and 2.6GHz spectrum and related issues

A consultation by Ofcom

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1. Executive Summary

Background

1. In 2011, Telefónica SA has made a highly significant investment decision, to base its new Telefónica Digital division in the UK. In part this is because the UK market contains some of the most demanding and sophisticated customers in the world[1]. We want those customers to be the first to use and enjoy the 4G based services developed by this new division. We therefore need access to new spectrum for 4G as none of our existing spectrum is suitable.

2. The Combined Award of 800MHz and 2600MHz plus the divestment of 1800MHz by Everything Everywhere represent the only time significant spectrum resources will be added to the UK mobile market before 2020. Ofcom's view is that the distribution of this spectrum will have demonstrable effects on competition in the downstream market. These effects are so large, in Ofcom's view, that it must intervene in the Combined Award in order to ensure that there is no reduction in competitive intensity, caused by the auction itself.

Spectrum auctions and competition remedies

3. Ofcom must ensure that the process for distributing this spectrum is as efficient as possible. The proposed combinatorial clock auction design would allocate those resources efficiently across the market. We have always agreed with Ofcom that it is prudent to avoid an over accumulation of spectrum rights, this is now reflected in the Common Regulatory Framework (CRF). Therefore it is proportionate to place the proposed caps on both sub-1GHz and total mobile spectrum ownership – at least during the spectrum award process.

4. In order to go further, and reserve spectrum for one or more parties, Ofcom needs to present a robustly justified case for intervention, aligned with its duty to promote competition. Ofcom must act in a proportionate and non-discriminatory way. It must also act consistently and rationally in this and parallel decisions.

Ofcom's justification for reserving spectrum for the "fourth player"

5. Ofcom's justification for intervening in the auction to secure four players is simple:

    a. Spectrum assets, specifically those suitable for LTE, are scarce resources and access to those resources is essential for a "national wholesaler" to remain competitive ("credible") in the market going forwards; and

    b. The number of credible national wholesale competitors is a pivotal factor in determining competitive intensity in the downstream market. These competitors must have access to spectrum that allows 4G services to be deployed nationally; and

[1] http://www.economist.com/node/21542405

c. The criticality of these inputs creates an incentive effect on existing licensees, such that they would act in a way (whether alone or through tacit co-ordination) to foreclose inputs to their competitors, to secure higher prices in the downstream market, than would exist with "four players".

6. A spectrum reservation is proposed, to ensure that the weakest player in the market (Hutchison) or a new entrant, remains a viable fourth player going forward, based on the above hypothesis.

The four player market hypothesis doesn't hold, there is no basis for a reservation

7. Ofcom purports, through its proposed reservations, to secure the same level of competition in the UK mobile wholesale market as we see today. A closer inspection of Ofcom's analysis shows that today's market is "*three plus one*". Hutchison is not present on the wholesale market, but in Ofcom's assessment Hutchison acts as an indirect constraint on the *three* credible national wholesalers, by virtue of its retail market share. Ofcom is not, therefore, required to secure four. To do so, would go beyond what is strictly necessary and therefore be disproportionate.

8. The Department of Justice's position on the proposed merger of AT&T and T-Mobile USA is cited as supporting Ofcom's "*four player*" hypothesis. A closer inspection, however, points to an endorsement of "*three plus one*". T-Mobile USA does not have any sub-1GHz spectrum to deploy LTE, rather it offers HSPA+ services in the AWS band (c.2100MHz)– a position analogous to Hutchison in the UK market today. The logic of the DoJ's position is that there would still be "*four*" if Hutchison won no spectrum for LTE.

9. The Government's recent response[2] to the CMS Select Committee report identifies that further in-market consolidation cannot be precluded. Indeed, Hutchison, the proposed beneficiary of a spectrum reservation, is currently in the process of undertaking such a four-to-three consolidation in Austria. We look forward to further understanding why Hutchison feels it must receive State assistance to *create* a four player market in the UK, whilst the same does not hold in another EU Member State subject to the CRF.

10. The evidence presented in this consultation leads us to conclude that securing "*four credible national wholesalers*" through spectrum reservations is not an appropriate or proportionate objective, as there are not four credible national wholesalers today. A CCA+caps auction will deliver the efficient, competitive outcome, determined by the market.

11. If Ofcom can provide further conclusive evidence to support its contention that "*four credible national wholesalers*" are required, then it must intervene only to the minimum

[2] http://www.publications.parliament.uk/pa/cm201012/cmselect/cmcumeds/1771/177104.htm *"we recognise that conditions in the mobile markets across Europe and internationally continue to be difficult and that we cannot preclude the possibility of further consolidation in the UK market in the future — although that will be assessed by the relevant merger control authority with input from Ofcom as appropriate at the time."*

extent necessary. We therefore explore the issue of remedies without prejudice to our position above, and in the interests of a proportionate and timely decision.

Why use a reservation to secure four players?

12. Two justifications are put forward by Ofcom when proposing a reservation remedy for Hutchison:

    a. Hutchison's current market shrare means that it will place less value on spectrum than other bidders, *ergo*, it would be the party most prone to being priced out of the spectrum it needs; and

    b. Strategic bidding risks for Hutchison are higher than for other bidders, because Ofcom assesses Hutchison's spectrum demand to be higher and specifically focussed on sub-2GHz and therefore Hutchison is more prone to strategic bidding against it.

Intrinsic value

13. We totally reject the first justification. It is unclear to us why Ofcom has arbitrarily chosen a very narrow investment horizon on which to assess the likely bidding incentives of a *"hugely resourced global corporation"*[3]. Hutchison Whampoa has periodically increased and decreased its investment exposure to the UK market. In 1999, it booked a profit of £9.6bn[4] on the sale of its interests in Orange plc[5], including 2x30MHz of 1800MHz spectrum. It has re-invested *some* of those profits into Hutchison 3G UK Limited. It would appear rational, looking at the UK as a long run asset investment, to pay what is required to make a long run return[6].

14. To base a remedies decision on a snapshot of Hutchison's *current* market position secures Hutchison Whampoa the upside of its investments in the UK, yet the UK taxpayer is required to step-in to mitigate the downside of what *currently* appears to be a poor re-investment decision. This would be an unacceptable situation and gives rise to moral hazard. There are lessons to be drawn from the wider economy of the negative effects of allowing companies to think they are "too important to fail".

15. Further, evidence from other EU auctions suggests that, notwithstanding their market share, other fourth players, especially subsidiaries of Hutchison Whampoa, have purchased sufficient spectrum to meet Ofcom's minimum portfolios. There must be other determinates of value that Ofcom has not accounted for.

[3] CMS Select Committee 3 May 2011 http://www.publications.parliament.uk/pa/cm201012/cmselect/cmcumeds/956/11050302.htm

[4] HK$118bn, at today's exchange rate.

[5] HWL annual report 1999, http://202.66.146.82/listco/hk/hutchison/annual/99/bushigh.pdf

[6] 3 Austria's proposed acquisition of Orange Austria (fourth player consolidates third player) underlines the need to look at the longer run returns when assessing investment incentives.

Strategic bidding

16. Ofcom's new analytical framework, used to assess the spectrum acquisition challenge faced by each bidder, is a useful tool. We have adopted it extensively and systematically in our analysis.

17. Where we depart from Ofcom's approach is to assess properly *the costs* of spectrum reservations in our assessment of proportionality. Ofcom's approach only addresses the benefits, ie securing spectrum for the intended beneficiary. It does not properly or systematically address the costs imposed on other bidders by reductions in supply. These costs will be felt in increased strategic risk for other bidders due to a reduction supply and optionality, or by making a new focus for strategic behaviour (against the next weakest bidder) obvious.

18. Ofcom's failure to properly assess both the benefits *and the costs* of its proposed reservation remedies infects its assessment of proportionality. We show that, in addition to distorting efficient allocation and increasing strategic risks for other bidders, the Competition Constraint may give rise to higher prices for other bidders (less efficient outcomes), leading to even greater reasons to minimise the size and use of reservations.

19. Given such high costs, Ofcom's proposals must be proportionate. It must properly qualify the risk of input foreclosure on the fourth player, both in terms of incentives and ability of others to behave in a strategic manner.

20. There is a fine balance to be struck when setting a proportionate remedy that both protects the interests of the "fourth player" but that does not also intervene to such a large extent that the risk of strategic foreclosure is just displaced onto the next weakest bidder. Ofcom's analytical approach does not allow it to find that tipping point, because it does not systematically address the costs of reservations on other bidders. It is our strong view, that "strategic bidding" is the singular justification that remains for a proportionate reservation, if the "four player" hypothesis holds.

The implications of Ofcom's hypotheses on "four players" and strategic incentives

21. The logic of Ofcom's strategic bidding argument is that the pay-off is large when:

    a. The party that is foreclosed is large, due to the amount of available market share that can now be attacked by the remaining "national wholesalers"; and

    b. The costs of executing the strategy can either be shared or are minimal.

22. Telefónica cannot, therefore, understand how Ofcom can propose[7] to create, through a regulatory decision, a monopoly "credible national wholesaler" prior to the launch of services by the other three "credible national wholesalers". The logic of Ofcom's own

[7] http://stakeholders.ofcom.org.uk/binaries/consultations/variation-900-1800mhz-lte-wimax/summary/condoc.pdf

position in the January 2012 consultation is that a monopoly provider has the highest pay-off from foreclosing all three of its potential LTE competitors either by:

a. Ensuring the Combined Award does not take place in any reasonable timeframe[8]; or

b. That the monopoly provider acts in a way that frustrates use of spectrum released in the Combined Award, through stalling the MitCo process[9].

23. The proposals in the March 2012 Notice calls into question Ofcom's own case in this consultation. Stakeholders have a legal right to expect consistent, principled and rational decision making from their regulator.

Qualifying strategic bidding risk on the fourth player

24. Ofcom must properly qualify the strategic bidding risks it seeks to mitigate, in order to make a proportionate remedies decision (distinct from the issue of consistency we identify above). Evidence from other EU Member States clearly identifies one end of the realistic perimeter for strategic behaviour, it allows Ofcom to qualify its analysis and determine the minimum, proportionate, remedy.

25. By reserving the smallest volume of spectrum (ie the reservation which incurs the fewest costs on other bidders), Ofcom reduces fundamentally Hutchison's risk in acquiring incremental capacity. With certainty over P1 or P2 (2x10MHz 800MHz or 2x15MHz 1800MHz), the risk faced by Hutchison would be no greater than it has faced as the fourth player in other EU auctions and only fractionally higher than Telefónica UK's own exposure.

26. In comparable EU auctions[10], the fourth player has acquired at least 2x10MHz of 2600MHz capacity. In many cases, Hutchison, specifically, has acquired more than this minimum. There has been no foreclosure, the perimeter of risk is clear.

27. In the circumstance where Ofcom can make an evidence-based case for an intervention to secure four, a case that does not cut across the European Commission's assessment of 3 Austria/Orange Austria, then it is our strong view that a proportionate remedy would be P1/P2 for Hutchison or a new entrant.

28. A reservation for sub-national RANs would incur costs on all the bidders seeking to acquire spectrum to be credible national wholesalers, increasing strategic risks. The case for reserving spectrum for sub-national RANs is speculative, at best, its costs are clearly large and measurable, ie. increased foreclosure risks on MNOs. Ofcom must let the market decide whether an allocation to sub-national RANs is the economically efficient outcome and return to the contestable assignment process proposed in March 2011.

[8] The Sunday Times (Business Section) p.2; 18th March 2012

[9] http://stakeholders.ofcom.org.uk/binaries/consultations/949731/summary/condoc.pdf §§7.173-7.178

[10] Each of these auctions was more prone to strategic behaviour because of their design. Ofcom's proposed design should be the least prone of all. Ofcom relies on this in terms.

29. In disposing of a public asset Ofcom is required to secure value for money. The purported social benefit used to justify a reservation is the provision of a *national* wholesale competitor, yet there is no means proposed to ensure that the state assets gifted to Hutchison Whampoa are used in pursuit of the objective. Hutchison secures all the windfall gain, taxpayers have no certainty that a *national* competitor will be forthcoming.

30. Telefónica is strongly of the view that taxpayers must have the benefits side of the value for money equation secured, by automatically attaching the 98% coverage obligation to the *reserved* 800MHz spectrum. Should Hutchison opt for the 1800MHz spectrum instead then Ofcom's proposed packaging arrangement already re-allocates the coverage obligation.

31. As Hutchison may not pay the market price for its spectrum, there is an inherent risk of the grant of state aid, although we accept that this outcome is not certain. If there is a clear grant of aid arising from any reservation, Telefónica has, by virtue of its directly effective rights, an entitlement to seek a court review and to secure a supplementary payment to the UK taxpayer from the recipient of this unjust enrichment.

Conclusions

32. Ofcom is faced with a choice between a small reservation (P1 or P2) for Hutchison, or none at all. "Special pleading"[11] for any incremental intervention is essentially a request for further state subsidy, for multi-national corporations at the taxpayers' expense. It is not the place of Government or Ofcom to prop-up firms through the use of state assets, at the expense of their competitors' chances of securing the scarce resources they need to serve a much larger proportion of UK citizens.

33. We expect Ofcom to make consistent and proportionate decisions which are soundly based in fact. Anything less is unacceptable, given the magnitude of the issues and the purported competitive effects Ofcom foresees.

Telefónica UK Limited
March 2012

[11] http://www.parliament.uk/business/committees/committees-a-z/commons-select/culture-media-and-sport-committee/news/committee-publishes-report-on-spectrum/

2. The March 2011 Consultation

Telefónica's response

34. Telefónica's response[12] to the March 2011 consultation[13] highlighted three substantive issues which we believed led Ofcom to the incorrect conclusions regarding the need for "spectrum floors" for Everything Everywhere and Hutchison. Specifically:

    a. The ability of holders of 900MHz spectrum to deploy a 2x15MHz carrier; and

    b. The ability of 900MHz holders to bid strategically in the auction due to the lack of incentives to do so (which relates to (a) above) and the action of the sub-1GHz cap; and

    c. The performance characteristics of 1800MHz and 800MHz.

35. Ofcom was clear in that consultation that the first two factors were the only issues that led to its justification for the proposed intervention[14]:

> *"Those national wholesalers who currently have spectrum holdings that may enable them in the future to provide higher quality data services*[ie sub-1GHz spectrum, ie Telefónica and/or Vodafone] *may have an incentive to pay more in the auction, in order to keep other national wholesalers from being able to match the services they can offer. Because of this, we consider there is a material risk that only three national wholesalers (or possibly even only two) may emerge from the combined award with spectrum portfolios that allow them an unmatchable competitive advantage in the provision of higher quality data services that are likely to be valued by consumers."*[our commentary]

36. In March 2011, Ofcom appeared fixated on sub-1GHz spectrum, notwithstanding that its own data showed that 1800MHz was a very close substitute[15].

Ofcom accepts Telefónica's analysis and is therefore right to re-consult

37. Notwithstanding the fundamental importance of 2x15MHz at 900MHz played in the 2011 justification for spectrum floors, Ofcom buries away its acceptance of Telefónica's position at Annex 6 §4.43 of the 2012 consultation:

> *"We also recognise that the standards currently do not allow 2x15MHz contiguous blocks to be deployed with LTE at 900MHz, reducing the peak data rates that could be used with 900MHz. It is possible that the standards could be changed (or that*

[12] http://stakeholders.ofcom.org.uk/binaries/consultations/combined-award/responses/Telefonica_UK_Ltd.pdf
[13] http://stakeholders.ofcom.org.uk/binaries/consultations/combined-award/summary/combined-award.pdf
[14] March 2011 consultation, Annex 6 §5.8
[15] Telefónica response, Figure 5 (p.44)

this may become less relevant with carrier aggregation), but we accept that there is some risk that the standards may not allow high peak speeds to be delivered with 900MHz spectrum. We consider the importance of high peak speeds for credibility as a national wholesaler is unclear."

38. At Annex 6 §5.123 in the 2012 consultation Ofcom accepts that that it would require Everything Everywhere, not just Telefónica or Vodafone to place a higher value on 800MHz spectrum in order to generate an auction outcome whereby one player did not hold sub-1GHz spectrum at the end of the auction process.

> *"the feasibility of strategic investment by Vodafone, Telefónica<u>and/or</u> Everything Everywhere requires there to be at least one possible auction outcome in which a fourth national wholesaler does not win 2x10MHz of 800MHz spectrum"* [our emphasis]

39. At §§1.23-1.24 of the main consultation, Ofcom accepts that it was in error to disregard 1800MHz as a viable alternative to 800MHz spectrum:

> *"In light of the responses to our March 2011 consultation and our further analysis we now believe that there is significantly less risk that Everything Everywhere might not continue to be a credible national wholesaler after the auction. Our previous analysis focussed predominantly on one area of potential risk (namely the need to hold sub-1GHz spectrum in order to be able to offer the best quality coverage in hard to serve locations), whereas we now consider it appropriate to place more emphasis on evaluating the capabilities of a national wholesaler's spectrum holdings in the round. In doing so we take greater account of the large amount of 1800 MHz spectrum that Everything Everywhere holds, which is in our view likely to enable it to have a sufficient quality of coverage and capacity, as well as providing it with a large bandwidth of spectrum suitable for LTE and the possibility to offer highest peak speed in both the near and longer term.*
>
> *With regard to holdings of sub-1GHz spectrum, we now believe that the technical advantages of sub-1GHz spectrum are less clear and that the large quantity (2 x 45 MHz) of 1800 MHz spectrum which Everything Everywhere holds is likely to mean that there is only a fairly small gap between what Everything Everywhere and the holders of 800 MHz spectrum could deliver. This is principally because our technical analysis now reflects more fully the range of service quality that consumers are likely to experience across a range of locations, rather than just focussing on service quality in something approaching the worst case. This shows that in many locations a network with a sufficiently large amount of 1800 MHz spectrum coupled with a large network of base stations could match or even better the quality of a network with a smaller amount of 800 MHz spectrum, even if it is unlikely to be able to do this in the hardest to serve locations. Consequently, we do not consider that the evidence available to us demonstrates that the differences between an 800 MHz*

and an 1800 MHz network would be sufficiently important for Everything Everywhere not to be capable of being a credible national wholesaler without sub-1GHz spectrum."

40. Acceptance of these facts is, we believe, the main reason that Ofcom chose to re-consult, as set out in its 7th October 2011 statement[16].

The previous proposals would have led to a "bad decision"

41. The issues highlighted above are substantive flaws. They were identified by stakeholders, including Telefónica, in responses to the March 2011 consultation. This is an example of the consultation process working effectively. Substantive errors of fact and analysis have been identified and Ofcom, through the January 2012 consultation, seeks to correct them.

42. In his 29th November 2011 speech[17] Ofcom's CEO highlighted the need to avoid bad decisions which are *"substantively flawed"*. Such bad decisions would be overturned by the Courts, he stated.

43. Ofcom, through this consultation, seeks to correct the errors highlighted by respondents to the March consultation, in order to avoid a *"bad decision"*. Better that Ofcom corrects its own work, than leaving it to the Courts. It is not the *"threat of litigation"* that is driving Ofcom to change its mind, rather the very real prospect that its March 2011 proposals would have culminated in a bad decision overturned on appeal – leading to even greater delays in the auction timetable and, more importantly, delays in the provision of 4G mobile.

44. Responding to a consultation, is not *"gaming the system"*, as Mr Richards suggests in his speech. What we have seen to date is a good consultation process in action, what he characterises as, *"objective, independent regulation"*.

45. The proposals put forward in January 2012 are substantively different from those put forward in March 2011. As the proposals put out for consultation in March 2011 were wrong, seeking their amendment is an entirely legitimate request from an affected party. We find it hard to understand why some policymakers have been keen to pin the blame for delays in the auction timetable onto the operators, rather than accept it as part and parcel of a robust consultation process, a process that should divine an outcome must less prone to successful legal challenge than that put forward in March 2011.

46. Finally, we note that the spectrum for sale in the auction is not available until 2013. Many policymakers appear to conflate the undertaking of the auction (ie when HM Treasury gets its money), with the point in time at which bidders get access to the inputs they are purchasing. The decision to re-consult has only affected the former, not the latter.

[16] http://stakeholders.ofcom.org.uk/consultations/combined-award/update
[17] http://media.ofcom.org.uk/files/2011/11/SPECTRUM-POLICY-SPEECH-291111.pdf

3. Should Ofcom reserve spectrum to secure a four player outcome?

Four credible national wholesalers is a "nice to have" rather than a necessity

Consolidation to a three player market is still possible

47. Ofcom primary concern, articulated in the consultation, is that a three player wholesale market *might* be significantly less competitive than the market we see today, with four 3G spectrum licensees[18]. Ofcom is careful to state that this is not a dogmatic position and that, in some circumstances, a three player market could produce a suitably competitive outcome[19].

> *"we have not reached a definitive view that a consolidation from four to three national wholesalers would harm competition or consumers. It is possible, at least in principle, that some such consolidation would not be detrimental. This depends on the specific facts of the case such as the precise nature of the consolidation, the market position of each of the remaining national wholesalers and the prevailing circumstances. We do not know those facts, because we do not know what form such a consolidation would take. So we are not in a position to conduct a detailed merger-style assessment of consolidation. But an advantage of our approach is that any such consolidation after the auction would be subject to appropriate analysis under merger control based on the precise form of that consolidation and the specific facts."*

48. This position builds on recent statements by Mr Vaizey, the Minister of State, suggesting that four national wholesale competitors might not always be maintained in order to secure competition:

> *Q245 Philip Davies: Will the Government, certainly while you are the Minister, keep four operators? Is that an absolute line in the sand-that you would not allow anything to happen to allow any consolidation in the market; that there need to be at least four competitors out there?*
>
> *"Ed Vaizey: No. But I will answer this question carefully. Obviously, the auction is designed to maintain the four competitors who are capable of being national wholesalers, that is, effectively running a national service. But it is quite clear from Ofcom's consultation, that it is agnostic about who those four competitors would be, in the sense that somebody could come into the auction and get the spectrum and roll out a service. Obviously, I support a competitive environment, but there is nothing to say that there could not be consolidation in the industry in the future. That is not a policy point, it is simply a reflection of how the market works. We had a merger between Orange and T-Mobile just before the last election, and that was subject to the normal competition regulations, and it has resulted in the merger*

[18] Annex 6 §2.5
[19] Annex 10 §A10.90

being cleared subject to some spectrum being made available by the merged entity. I can have a philosophical view that four mobile operators is a good thing, but that doesnot mean that there will not be consolidation in the industry."[20]

And

"I do of course want the future mobile market to be as competitive as it has been in recent years. That is why this Government directed Ofcom to undertake a competitive study in advance of the auction and put in place any measures that will promote competition post auction. Ofcom, as the relevant competition authority, has determined that it wants to see at least four mobile operators able to offer a wholesale service emerge from this auction. I am content with this position, although as I noted in my evidence to the Select Committee earlier in the year, there is nothing to say that further consolidation may not occur in the future as a result of market forces."[21]

49. The Minister is wise to point out that the "four player" aspiration is not set in stone. Requiring this to exist in perpetuity risks creating a barrier to exit and a toxic market for investors in the UK. Something that will eventually damage investment, innovation and the interests of consumers.

50. This suggests to us that any competition remedy must be the least prescriptive possible. Regulators cannot second guess the optimal market structure, nor should they. Regulators should review mergers when they are notified and make decisions on the facts at that time, rather than create hostages to fortune through *ex ante* policy statements.

51. If Ofcom can make a case for securing "n" players it should intervene to the absolute minimum extent necessary to ensure that there is effective competition between the "n". Again this does not automatically equate to predetermining which operator should get what out of the auction. That is what auctions do. Whatever the remedy, it must also not act to the detriment of those not subject to it.

<u>Orange Austria / 3 Austria</u>

52. At Annex 6 §2.40 Ofcom is right to highlight that the details of a specific merger will be relevant when considering whether to clear, intervene or reject it.

"Other things being equal, especially in a market with significant barriers to entry, competitive intensity in a market will tend to be higher when there are more competitors, and lower when there are fewer competitors. A reduction in the number of competitors from four to three is typically seen as a substantial increase in concentration in an already highly-concentrated market, and therefore as a potential cause for concern....."

[20] Oral evidence to CMS Select Committee [11 July 2011] http://www.publications.parliament.uk/pa/cm201012/cmselect/cmcumeds/1258/110705.htm

[21] http://www.dcms.gov.uk/news/ministers_speeches/8625.aspx Speech to an Intellect Conference 15 November 2011.

53. Ofcom will be aware that on 3rd February 2012 Hutchison Whampoa announced the proposed merger between 3 Austria and Orange Austria, which would create a three national wholesaler market in that EU Member State. Whilst we agree with Ofcom that the regulatory authorities in *that* case will need to assess the specifics of *that* merger, there will be parallels that can be drawn from any decision with the analogous issues in the UK market. We will reserve our position on the implications of any merger decision in the Austrian case until such a decision is made public.

54. There is a legal obligation on merging parties to make truthful and accurate representations to the European Commission in support of their notified concentration[22]. If there is any inconsistency[23] in the position put forward by, on the one hand, Hutchison Whampoa in support of a four-to-three transaction in Austria and, on the other, any case made by its subsidiary 3UK in support of Ofcom's proposals to intervene to guarantee four players in the UK, Ofcom must give greater weight to the arguments made by Hutchison in support of a four to three consolidation.

55. We look forward to reviewing the submissions of Hutchison Whampoa and its subsidiaries and reserve our right to make further submissions on this consistency point in due course.

Market definition

56. The approach to this consultation departs from that presented in the 2007, 2009 and 2011 consultations. In those exercises, Ofcom used the existing ownership of sub-1GHz spectrum as the device to draw a distinction between Vodafone and Telefónica, on the one hand, and all other parties.

57. Those consultations relied on specific technical characteristics of sub-1GHz to substantiate Ofcom's assertions regarding the creation of a separate product market only serviceable by sub-1GHz spectrum; coverage (2007), speed (2009) and capacity (2011). Telefónica has successfully rebutted each of these analyses because, in each case Ofcom made fundamental factual mistakes in its assessment of the technical properties of sub-1GHz spectrum vs its substitutes.

[22] Council Regulation (EC) No 139/2004 of 20 January 2004 on the control of concentrations between undertakings (the EU Merger Regulation) OJ L24, 29.1.2004, p.1 *"Art. 14(1): The Commission may by decision impose ... fines not exceeding 1% of the aggregate turnover of the undertaking ... where intentionally or negligently (a) they supply incorrect or misleading information in a submission, certification, notification or supplement thereto ...; (b) they supply incorrect or misleading information [in response to an Art. 11 request for information] ... ; (c) ... they supply incorrect, incomplete or misleading information [in response to an Art. 11 decision requiring the provision of information]; (d) they produce the required books or other records related to the business in incomplete form during [unannounced inspections] or refuse to submit to an inspection; (e) they give incorrect or misleading answer in response to a question asked during an inspection regarding explanations of facts or documents, they fail to rectify an incorrect, incomplete or misleading answer or fail or refuse to provide a complete answer on facts relating to the subject matter and purpose of an inspection ordered by decision."*

[23] *"Three has argued vocally for protection from regulators to ensue this [the UK] remains a four-player market – which could create some interesting dilemmas as it pushes for consolidation in Austria."* The Guardian 17th January 2012

58. In each consultation, the second limb of Ofcom's argument was the existence of a separate market for services based on sub-1GHz spectrum – a market unconstrained by the main mobile market, without a chain of substitution or common pricing constraint[24].

59. Having exhausted all the technical characteristics to differentiate sub-1GHz spectrum from other substitutes, Ofcom reduces its reliance on the separate product market hypothesis, in this consultation[25].

The extent of "four player" competition today – it's really "three and bit players"

60. At Annex 6 §2.1-§2.6 Ofcom accepts that:

> "*competition has been strong in the UK mobile market up to now*" [§2.4]

It identifies a risk that it wishes to mitigate

> "*the market would be significantly less competitive with fewer national wholesalers than now*" [§2.5]

But then makes the logical leap that

> "*we therefore consider there is a strong case for preferring an outcome of the auction where there are at least four credible national wholesalers.*" [§2.5]

61. To get from "competition today" to "four national wholesalers" Ofcom has to undertake an analysis of the structure and dynamics of the wholesale market today – rather than just make an assertion that the wholesale market has four effective competitors.

62. At footnote 5 in Annex 6, Ofcom tries to side-step Vodafone's well evidenced argument that Hutchison is not really a competitor on the national wholesale market today, having no MVNOs supported on its network[26].

> "*we consider that an operator can be a credible national wholesaler even if it does not currently sell access to MVNOs, because its own retail activities contribute to retail competition, it has the potential to sell access to MVNOs, and it can act as an indirect constraint on the wholesale activities of other national wholesalers. It can act as an indirect constraint because the wholesale level represents a significant share of total retail revenues.*"[our emphasis]

63. Ofcom accepts, in terms, that an operator which does not supply MVNOs but holds a retail market share of 7%[27] is all that is required to act as an indirect constraint on the active wholesalers. To secure the level of competition that we see in the wholesale market today, therefore, Ofcom need do no more than secure the presence of three credible national

[24] See Annex 10 §A10.7

[25] See Annex 6 §2.31 *"In summary, whether or not separate markets develop, there could still be some harm for those customers who want particular high quality data services if some national wholesalers are unable to provide those services. So even if there remain four national wholesalers overall, this could mean that customers for some high quality data services would have a choice of three or fewer providers."*

[26] http://stakeholders.ofcom.org.uk/binaries/consultations/combined-award/responses/Vodafone.pdf §§19-23

[27] Annex 6, §5.30

wholesalers plus one indirect constraint with sufficient resources to supply around 7% of the retail market. To do more would be disproportionate.

64. The proportionate competition objective is to secure "three plus one", not four.

AT&T / T-Mobile USA – evidence that indirect constraints are sufficient

65. At §A10.146, Ofcom prays in aid to the US Department of Justice's position on the recently proposed merger between AT&T / T-Mobile USA.

> *"The DoJ's and FCC's analysis illustrates that a four-to-three merger among national wholesalers can lead to competition concerns, which in that case were sufficiently serious for the DoJ to seek to block the merger."*

66. We agree that this case is relevant, as on the one hand, the Parties (AT&T and T-MUSA[28]) contended that the merger was required in order for the merged entity to have access to the right mix of spectrum to remain competitive, such that a reduction in the number of competitors is desirable. See for example:

> *"AT&T faces network spectrum and capacity constraints more severe than those of any other wireless provider, and this merger provides by far the surest, fastest, and most efficient solution to that challenge. The network synergies of this transaction will free up new capacity—the functional equivalent of new spectrum—in the many urban, suburban, and rural wireless markets where escalating broadband usage is fast consuming existing capacity. This transaction will thus benefit consumers by reducing the number of dropped and blocked calls, increasing data speeds, and dramatically expanding deployment of next-generation mobile technology.*
>
> *Indeed, the transaction will give the combined company the scale, resources, and spectrum that will enable it to deploy LTE to more than 97 percent of Americans—approximately 55 million more Americans than under AT&T's current plans."*[29]
>
> *"From a consumer's perspective, the capacity constraints confronting these companies, if unaddressed, would translate into more dropped and blocked calls, slower speeds, and access to fewer and less advanced applications. More generally, these capacity constraints could hinderinnovation in America's mobile broadband ecosystem. As [FCC] Chairman Genachowski has observed, "[i]f we do nothing in the face of the looming spectrum crunch, many consumers will face higher prices—as the market is forced to respond to supply and demand—and frustrating service—connections that drop, apps that run unreliably or too slowly. The result will be downward pressure on consumer use of wireless service, and a slowing down of innovation and investment in the space." These consumer harms, moreover, "would*

[28] We note that DTAG is the owner of T-Mobile USA and a 50% owner of Everything Everywhere. We would expect DTAG's submissions to the US courts and regulators to be truthful and honest representations of their position. Consequently we trust that EE's submissions to Ofcom will be consistent with DTAG's stated case in the US courts. If they are not consistent, Ofcom will need to draw its conclusions on EE's evidence carefully.

[29] AT&T/TM-USA FCC Filing 21 April 2011 http://mobilizeeverything.com/facts/FCC-filing-april-21 p.6

. . . have a disproportionate impact on minority and low-income groups who are more likely than the average American to access the Internet through a mobile device." "[T]he only thing that can address the growing overall demand for mobile," the Chairman more recently added, "is increasing the overall supply of spectrum and the efficiency of its use.""[30]

"This transaction helps meet that national objective. Although it will not literally increase "the overall supply of spectrum," it will dramatically increase the efficiency of its use, and those efficiency gains are the functional equivalent of creating new spectrum. In this manner, the transaction will provide by far the fastest, most efficient, and most certain solution to each applicant's capacity challenges, while creating significant benefits for consumers and the marketplace as a whole. It will improve service quality and create a robust, ubiquitous, and state-of-the-art wireless broadband platform. It will enable the combined company to compete far more effectively than either company could alone"[31]

67. Whereas the Department of Justice (DoJ) in its submission[32] to the Courts believes that retaining the current market structure is more relevant and desirable for consumers, notwithstanding the "minimum spectrum portfolio" argument made by the Parties:

"Due to the advantages arising from their scale and scope of coverage, each of the Big Four nationwide carriers is especially well-positioned to drive competition, at both a national and local level, in this industry. T-Mobile in particular - a company with a self-described "challenger brand," that historically has been a value provider, and that even within the past few months had been developing and deploying "disruptive pricing" plans - places important competitive pressure on its three larger rivals, particularly in terms of pricing, a critically important aspect of competition. AT&T's elimination of T-Mobile as an independent, low-priced rival would remove a significant competitive force from the market.

Additionally, T-Mobile's investment in an advanced high-speed network and its innovations in technology and mobile wireless telecommunications services have provided, and continue to provide, consumers with significant value. Thus, unless this acquisition is enjoined, customers of mobile wireless telecommunications services likely will face higher prices, less product variety and innovation, and poorer quality services due to reduced incentives to invest than would exist absent the merger. Because AT&T's acquisition of T-Mobile likely would substantially lessen competition in violation of Section 7 of the Clayton Act, 15 U.S.C. § 18, the Court should permanently enjoin this acquisition."[33]

[30] Ibid p.11
[31] Ibid p.12
[32] http://www.justice.gov/atr/cases/f274600/274613.pdf
[33] Ibid §2

68. The DoJ appears to believe that there is a chain of substitution between network technologies, as it specifically cites T-MUSA's deployment of HSPA+ (marketed as 4G) as an innovative product launched as a competitive response to LTE[34].

> *"T-Mobile has also been an innovator in terms of network development and deployment. For instance, T-Mobile was the first company to roll out and market a nationwide network based on advanced HSPA+ technology and marketed as 4G. Such investments in new network technologies – spurred by competition among the Big Four - are valuable to consumers as they increase the efficiency of spectrum use and allow for more mobile wireless services output.*
>
> *AT&T has felt competitive pressure from T-Mobile's innovation…"*

69. The DoJ's contention that it is the number of players in a market which is the most important factor, not the spectrum portfolios that each of those players have. A chain of substitution exists such that "smaller", "innovative", "challenger", "low price operations" relying on "HSPA+"[35], which can act as a competitive constraint on larger players operating LTE networks. Spectrum allocation plays second fiddle to the competitive interaction, in the market, between competing firms.

70. Again, this points to a weaker hypothesis about the need to align spectrum holdings across four operators and that competition can be secured in the presence of three national wholesale players plus one or more smaller competitors with sufficient resources to act as an indirect competitive constraint(s).

71. As before, this suggests that Ofcom need only intervene to the absolute minimum extent necessary to secure an indirect constraint on three players, rather than to absolutely guarantee the creation of a full blown fourth national LTE wholesaler.

72. We also note that the DoJ's position would imply that any misallocation of spectrum may not be reversible by merger, should it be adopted by Ofcom. This adds further support to our position on the "reversibility fallacy"[36], which we discuss later.

<u>One player with HSPA+ at 2100MHz will be a sufficient constraint on three LTE players</u>

73. We note with interest the position of the DoJ on the competitive constraint placed on LTE players by T-Mobile's HSPA+ network. T-Mobile USA operates its HSPA+ network in the AWS band[37] (1710-1755MHz paired with 2110-2155MHz).

74. All operators in the UK market can today provide HSPA+ services at 1900-2100MHz, a comparable band to AWS. Two operators can also provide HSPA services at 900MHz[38].

[34] Ibid §§29-30
[35] http://www.digitalspy.co.uk/tech/news/a368988/three-backtracks-on-plans-to-bring-4g-to-the-uk.html
[36] We note that any decision by the EC not to approve the 3 Austria/Orange Austria transaction would demonstrate the risks of relying on a merger to reverse regulatory failure. Ofcom may not be the final arbiter in fixing its own mistakes.
[37] See AT&T/T-MUSA FCC filing April 2011, p.38

Putting aside issues of capacity[39], from a capability standpoint, based on the DoJ's thesis, all MNOs can act as an indirect constraint on three LTE players in the future wholesale market, ie the outcome of the auction is not pivotal to the structure of the wholesale market going forward unless there is a risk that *three* LTE players will not emerge from the auction.

75. We note that Hutchison is also of the view that HSPA+ has comparable performance characteristics to LTE[40]. We note that it has now launched HSPA+DC – it is already in a position to be the indirect substitute.

Ofcom must deal with the issue of HSPA+ based competition in a symmetric manner

76. As we show above, the DoJ believes that HSPA+ competition at 2100MHz is sufficient to provide a competitive constraint on three larger LTE players, delivering an effectively competitive wholesale market.

77. In contrast to the DoJ, Ofcom believes that there is some uncertainty as to whether HSPA+ is, in the long run, a viable competing technology[41]. We also note that there is considerable uncertainty whether LTE will be available in either the 900MHz or 2100MHz band within the next five years[42]. In addition, LTE900 is rendered more uncertain because:

    a. It's deployment would require defragmentation of the 900MHz band[43] providing the potential for one of the 900MHz licensees (with 800MHz) to hold-up the deployment of LTE900 by the other; and

    b. Ofcom has yet to make any liberalisation decision for 4G at 900MHz, so it cannot rely on this[44]; and

    c. It is not clear that the whole 900MHz band will support LTE, due to interference challenges in the E-GSM band, adjacent to Network Rail.

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[38] It is, of course, the case that HSPA+ can be provided at both 900MHz and 2100MHz. Ofcom has found that a 2100MHz network with sufficient sites can deliver an equivalent service to that on a 900MHz network, except in "the very hardest to serve locations" – Advice to Government §5.39

[39] Annex 6 §4.60 *"we consider the limited spectrum amount to be an important weakness in H3G's current holdings".*

[40] http://www.publications.parliament.uk/pa/cm201012/cmselect/cmcumeds/1258/1258.pdf p.165 §7.1 *"The performance of networks operating in the 3G market place has reached a point where it is possible to offer a quality of service nearing that of 4G technologies at a considerably lower cost. The table below (extracted from our consultation response) shows the performance difference in megabits per second between the most recent development in 3G technology (HSPA+) and 4G (LTE). The performance differences are marginal in terms of the download speeds available to customers using a 3G network operating (HSPA+), which is available now and a customer using a 4G network (LTE), available in several years time."*

[41] Annex 6 §3.2 bullet 4, §3.198 *"……We expect that the gap between what LTE and HSPA can deliver to increase over time. Longer term, when the gap between HSPA and LTE increases, it may be important for national wholesalers to hold spectrum suitable for delivering LTE services."*

[42] Annex 6 §§3.204-3.205.

[43] Annex 8 §8.34

[44] Absent a binding decision now to liberalise in the hands of the incumbents, Ofcom would not be able to rely on LTE900 being a viable solution for the incumbents – without fettering its discretion *vis a vis* any future LTE900 liberalisation decision. We are aware that Ofcom is invariably reticent to fetter its discretion.

78. It is important to recognise that at the time of the auction, bidders have a binary choice to make on the suitability of HSPA+/LTE900 as an alternative to spectrum available in the auction. If bidders get that choice wrong and incorrectly value HSPA+/LTE900 as an alternative, it will negatively affect their business. Ofcom cannot look at this as a variable. It must assess the impact of either outcome:

    a. HSPA+ at 2100MHz[45] AND 900MHz is a sufficiently competitive technology with LTE consistent with the DoJ's analysis; or

    b. HSPA+ is not a sufficiently competitive technology to LTE (notwithstanding Hutchison's submissions to Parliament, to the contrary) and, therefore, discount the possibility of HSPA+ acting as a competitive constraint either at 2100MHz AND 900MHz.

79. Our preferred approach would be to deal with the risk systematically within the analytical framework and properly examine the impact of the outcomes (a) or (b) above, rather than inconsistently make assertions about HSPA+, as happens in the consultation at present.

<u>Is some form of capacity reservation required in order to secure three plus one?</u>

80. In the current market Hutchison acts as an indirect constraint on the other three national wholesalers through its retail market share, with stands at around 7%. It has achieved this market share with 9% of available FDD spectrum capacity.

81. It is unclear whether there is a causal link between spectrum capacity and market share, although there appears to be some correlation. It is unclear, whether the players with the most spectrum tend to have the largest market share because they have been in the market the longest, rather than as a direct result of the their spectrum holding. Parties that have been in the market for the longest are likely to have the most spectrum, because they have participated in multiple spectrum awards processes[46].

82. If Hutchison acquired no spectrum in the Combined Award its total share of FDD spectrum would fall to 5.6%. It would need to buy just 2x10MHz of spectrum from the 2x115MHz available in order to get back to 9% and act as an indirect constraint on three other players. We note that in Austria (2x20MHz), Sweden (2x20MHz) and Italy (2x15MHz +TDD), Hutchison, a "*hugely resourced global corporation*"[47], has acquired more than 2x10MHz of spectrum notwithstanding that each of these processes were much more prone to strategic behaviour, because of the transparency of information available to bidders during the auction.

83. There is demonstrably no case to reserve spectrum to secure today's competitive market.

[45] With a sufficiently dense cell grid, as enjoyed by Hutchison following the Merger Decision.

[46] We note that Hutchison Whampoa previously held 2x30MHz of 1800MHz spectrum before it sold Orange UK in 2000. It has therefore traded in and out of UK spectrum assets and it is not open to it to argue that in some way it is placed at a disadvantage due to its previous decision to divest itself of spectrum capacity, for a substantial profit.

[47] Ed Richards, Uncorrected oral evidence to the CMS Committee (3 May 2011)

Other EU regulators have not distorted their auctions to secure four credible national wholesalers

84. In Annex 9 (§§A9.6-A9.8) Ofcom highlights that a large number of European NRAs have used the 2G refarming process to re-allocate spectrum amongst existing licensees, or held new competitions for that spectrum. The UK Government, in its Direction to Ofcom, decided that there was no evidence based case to undertake such a re-allocation.

85. Ofcom correctly labels the next section of Annex 9 as "Auction Measures", ie that there is a distinction to be drawn between the refarming decisions in the previous sub-section and the entirely separate auction decisions covered at §§A9.9-A9.15. At no point in its consultation does Ofcom use the outcome of the 2G liberalisation process to justify its proposals for the auction. This is the correct approach. If this approach is to be changed, as some stakeholders continue to suggest, then a further consultation will be required.

86. Ofcom's review of EU auctions shows that, to date, no NRA has reserved spectrum in its 800/2600 auction, ie distorted the auction outcome, in the interests of furthering four player competition.

87. Ofcom cites the proposal by the Dutch Ministry of Economic Affairs to reserve 800MHz spectrum for a new entrant. We note that this is still subject to consultation and, therefore, does not provide any support to Ofcom's case.

88. No regulatory decision has been taken in the EU to reserve 800MHz or 2600MHz in the pursuit of a four player outcome. Ofcom's own advisors describe the approach as "novel"[48]. Ofcom is the outlier.

Conclusion on the necessity of a four player outcome

89. It is Telefónica's strong view that the assembled evidence in the consultation demonstrates that:

    a. Today' s market is not a four player wholesale market, by Ofcom's own admission, Hutchison acts as an indirect constraint on its competitors. To secure an equally competitive outcome following the auction, therefore, Ofcom must secure "thee plus one" if there is a plausible risk that this would not emerge;

    b. The evidence from AT&T/T-MUSA also supports the "three plus one" position;

    c. The DoJ's position in AT&T/T-MUSA supports Hutchison's own view that HSPA+ is sufficient to be competitive with LTE, and the DoJ's view is that 2100MHz spectrum has the right characteristics to be sufficient also. This aligns with Ofcom's advice to Government regarding technical differences between 900MHz and 2100MHz residing at the margin;

[48] http://www.dotecon.com/index.php?target=news&subtarget=2421&from=latest

d. At most, to get back to "three plus one" Hutchison must acquire just 2x10MHz from the available 2x115MHz in the Combined Award/divestment. This it has managed to achieve in three other EU auction processes, notwithstanding that those processes were more prone to strategic behaviour than the auction design in the UK.

90. Ofcom's purported requirement for "four players" is not supported by the evidence, it is also very weak hypothesis, one which may be undone by future mergers.

Implications of a strong preference for four players

91. If, notwithstanding our submission, Ofcom persists with its policy preference for four players, then Ofcom will be introducing significant rigidity into its policymaking going forwards. Specifically, Ofcom will have created a policy objective that must guide its future decision making – else it would be prone to challenge on irrationality. That policy position would be that:

a. In order for Ofcom to comply with its duties, it must promote outcomes that secure an intensity of competition no worse than we see in the market today[49];

b. Spectrum holdings are an important contributor to the intensity of competition in the mobile market and substantive changes in their distribution or use cannot be altered without a full competition assessment[50];

c. The intensity of competition must be secured nationally, it is insufficient if competitive intensity is maintained only in a limited set of locations[51]; and

d. Retail players must be presented with adequate credible choices of supply at the wholesale level - at least four[52].

92. In order to rely on the policy preference, it must be a strongly held principled position, not one to be dispensed with lightly, or for convenience. It must be a policy preference that Ofcom complies with when conducting future competition assessments, unless it finds good reason to do otherwise. If there are good reasons to diverge from this policy preference within the period covered by the competition assessment in Annex 6, then Ofcom must revisit its proposals for this auction.

[49] §4.4 *"we continue to have concerns that without measures in the auction, competition in mobile markets may not be promoted, resulting in a lower intensity of competition compared either to today or to the degree of future competition that could be promoted."*

[50] §4.4 *"The distribution of spectrum after the auction is therefore likely to shape the future competitiveness of the mobile sector for at least the next decade."*

[51] §1.20 *"the main level in the value chain at which we believe we should promote competition is the national wholesale level"*

[52] §4.46 *"We are concerned that if as a result of the auction there were fewer than four entities capable of being credible national wholesalers the market would not be as competitive as it could be if there were four credible national wholesalers."*

93. Such relevant competition assessments would include:

    a. Any relevant merger or consolidation, reviewed under the ECMR; or

    b. A competition assessment, such as that Ofcom should have undertaken (but has not) in relation to Everything Everywhere's licence variation request[53]; or

    c. The competition assessment to approve the Single Purchaser of the divestment spectrum, as required under the Merger Decision[54].

94. Each of the processes (a)-(c) will require on a *de novo* competition assessment, conducted under the relevant legal instrument. That will require quantification of costs and benefits in a full CBA. Such an assessment will need to take into account both the four player policy preference described above, and the factual matrix at that time.

95. Any decision on (a)-(c) would only be a partial implementation of the policy preference, as it would have to rely on an assumed outcome arising from Ofcom's final Decision on the auction, which addresses the vast majority of the resources in the market[55]. It is our strong view that such an assumption would prejudice this consultation process.

96. Any of the decisions (a)-(c) cannot be made until it is clear that Ofcom's Auction Decision has been put into practice and that the desired outcome, four credible national wholesalers has been secured.

[53] The Consultation §1.60

[54] http://ec.europa.eu/competition/mergers/cases/decisions/M5650_20100301_20212_247214_EN.pdf *Commitments §18(c) "be likely to create, in the light of the information available to the Commission, prima facie competition concerns nor give rise to a risk that the implementation of the Commitments will be delayed, and must, in particular, reasonably be expected to obtain all necessary approvals from the relevant regulatory authorities for the acquisition of the Divestment Spectrum (the before-mentioned criteria for the purchaser hereafter the "Purchaser Requirements")"*

[55] §4.46 *"The auction is likely to be particularly important in shaping future competition in mobile markets given the amount and importance of the spectrum in the auction."*

4. Spectrum reservations are not costless remedies

97. In Annex 6, Section 6 Ofcom outlines a number of possible remedies that could be used to promote national wholesale competition following the auction. Later, in Section 8 Ofcom assesses the effectiveness and proportionality of these measures against its objectives.

98. At this stage we have three broad observations, two of which is highly relevant to the proportionality of the remedies proposed in the consultation.

Spectrum caps are targeted, they only affect specific bidders

99. As Ofcom notes in Annex 10, §§A10.186-A10.189, Telefónica has not objected to either the sub-1GHz cap, or the Total Cap. There is a simple reason for this, they are targeted remedies. They only act on parties that accrue rights beyond a specified level, or who have substantial existing rights.

100. There is no negative impact on other bidders, the choices of other bidders are not reduced by the presence of caps, they are, in fact, enhanced as the caps will constrain the behaviour of only those bidders they affect. This is why caps are widely used and have been present in all EU Member State auctions.

Spectrum reservations have negative effects on all other bidders

101. At Annex §6.12 Ofcom makes the following assertion:

> *"Reserving particular spectrum (or a menu of suitable spectrum portfolios) for national wholesalers who need it to be credible has the advantage of potentially being more effective in meeting its aim of promoting competition. Because it is more targeted than caps, it may also reduce the disadvantage of potentially causing spectrum inefficiency. It is more targeted because it does not dictate how the remaining spectrum is divided, allowing this to be determined by competition in the auction."*

102. Telefónica strongly rejects this assertion. We agree that in one respect reservations are targeted, in that it is easy to identify which bidders benefit, in this case Hutchison. We totally disagree that there are beneficial effects on other bidders; *"it is more targeted because it does not dictate how the remaining spectrum is divided...."*

103. Ofcom's principle argument is that without the reservation, the beneficiary would not win the required spectrum. At the most fundamental level therefore, any reservation must reduce the overall supply of spectrum for other bidders.

104. In the counterfactual auction without a reservation, on Ofcom's hypothesis, Hutchison would not win the spectrum contained in the reservation. Therefore, the effect of the reservation is to reduce the supply to the "winners" in the counterfactual auction or give rise

to an outcome where one or more of the counterfactual "winners" does not acquire "the right spectrum" (from their perspective).

105. Spectrum will be allocated differently (less efficiently than the counterfactual) and probably at a higher price to all other bidders, because of the reduction in supply.

106. Yes, we accept that the remaining spectrum will be divided under a competitive process, but that competitive process is already distorted by the reduction of inputs versus the counterfactual.

107. Ofcom's assertion at Annex 6 §8.12 suggest to us that it has not fully assessed the proportionality of spectrum reservations. Had it done so, it would have concluded that such reservations must be minimised or not included at all. We note that no other EU Member State has reserved spectrum for bidders in the auction for 800MHz/2600MHz.

108. This fundamental misreading of the impact of reservations on other bidders infects Ofcom's assessment of proportionality, as we discuss in Section 5 of this document.

109. Later in this response we discuss how this effect essentially gives rise to a conflict between

    a. Ofcom's stated primary objective, to secure four national wholesalers[56] – to secure four national wholesalers; and

    b. what it accepts is a secondary objective[57], with benefits that are hard to quantify – securing sub-national RANs.

110. Ofcom has failed to properly assess the cumulative negative effects of having both reservations in tandem. We will show in Section 5 how the reduction of supply in pursuit of the secondary objective adversely affects the likelihood of securing the primary objective and increases the scope for strategic behaviour to reduce the number of credible national wholesalers.

The reversibility fallacy

111. At Annex 6 §2.13 Ofcom highlights the "one-off" nature of the auction and length of time that will elapse before additional resources are added to the market.

> *"The spectrum in the auction represents a significant increase in total mobile spectrum from about 350MHz to about 600MHz and is expected to be used for LTE technology. The auction is likely to be the last significant opportunity to obtain prime mobile spectrum for the foreseeable future."*

112. Therefore, if there is regulatory failure in whatever Ofcom proposes, it cannot be undone any time soon, by the provision of more spectrum from Ofcom's cupboards.

[56] See Annex 6 §§2.1-2.6 for example.
[57] Annex 6 §1.6 b8; §9.14 *"in addition to"*.

113. Ofcom relies[58] on the reversibility of any failure through a merger, as one way that the risk of regulatory failure can be reduced.

> *"Another factor that in our view mitigates the risk of regulatory failure from promoting an auction outcome with at least four national wholesalers when it would have been in consumers' interests to have fewer, is that this decision could be reversible. It would be possible to consider a spectrum trade or a consolidation after the auction. The balance between any efficiency benefits to the merging parties, effects on competition and benefits to consumers could be considered at that time.*
>
> *Even though the decision to promote at least four national wholesalers may be reversible in this sense, we recognise that there could still be some costs to taking measures now to promote at least four. Taking measures now could at least delay any consolidation which could have costs. Taking measures could also result in a windfall gain to the company obtaining the reserved spectrum (as discussed further in paragraph 7.31 below).*
>
> *Nevertheless, we consider that because it is reversible at a later date the potential cost of regulatory failure is reduced. In contrast, it is likely to be hard to increase the number of national wholesale competitors in the event that having only three did not result in a very competitive market".*

114. We have concerns regarding the reliance on reversibility through merger. One needs to consider the counterfactual situation first. In that counterfactual there may be a different set of winners (or the winners may be a sub-set) and the allocation of resources between those winners will be different to an auction run with Ofcom's proposed reservation for Hutchison.

115. It does not necessarily follow, therefore, that there will be just one party that is subject to a misallocation. There may be multiple affected parties, Ofcom will never know, because it has not run the counterfactual auction.

116. If one of the affected parties seeks to acquire Hutchison (as the beneficiary of the misallocated resources) it may indeed reverse the misallocation to itself. However, such a merger will not reverse the misallocation to other bidders. The effect of the remedy cannot be fully reversed and even the partial reversal will incur frictional costs to the detriment of consumers (as identified by Ofcom).

[58] Annex 6 §§7.23-7.25

5. Analytical Framework – minimum required portfolios

Our approach to this analysis

117. In this response we focus on the case made by Ofcom as to what each potential credible national wholesaler requires to become or remain credible. No inference should be drawn as to Telefónica's specific demand in the forthcoming auction from this discussion. We can only really address this issue by engaging on the hypotheses put forward by Ofcom.

118. In this section we follow Ofcom's approach to examining how reliant each existing MNO is on the auction / divestment outcome, in order to be a credible national wholesaler. At this stage we make no comment on any need be intervention in order to secure a given outcome. In this section we only comment on the "task" faced by each bidder in achieving their target outcome, as posited by Ofcom.

119. Importantly we approach the use of the framework in a more systematic way than Ofcom:

    a. we look at the impact of changing the process from a one-off auction, in which the 1800MHz divestment is present, to one whereby EE divests 2x15MHz 1800MHz by way of a private sale before the auction. This changes the information available to bidders ahead of the auction and the incentives on the divestment holder.

    b. we examine the impact on starting positions and consequent residual "task" in a systematic way for each increment of reservation. It is not sufficient to look at each proposed reservation in isolation, Ofcom must systematically assess whether:

        i. The beneficiary of a reservation is still at a sufficient disadvantage relative to its peers such that there is a case for increasing the size of the reservation, e.g. from "small portfolios" (P1 or P2) to "medium portfolios" (P3-P6);

        ii. What the consequent negative effects are on other bidders in particular, does the reduction in supply increase the risks to the "next weakest bidder"? ; and

        iii. Whether there is a leverage effect, ie whether certainty over P1 or P2, for example, decreases the risk of strategic behaviour being effective – <u>on the incremental spectrum.</u>

    c. we examine the impact of risk, systematically, in particular the risks associated with operators relying on HSPA+ as a short or long term alternative to LTE. This is important because getting that decision wrong (from the bidder's perspective) is essentially an irreversible decision.

Taking account of a range of factors

120. In Annex 6, Section 4 Ofcom introduces a useful framework under which to assess the existing position of operators against a range of measures. We adopt the same measures as set out at §4.11 in Annex 6:

    a. Capacity and average data rate – near term: capacity suitable for data services soon after the auction. This will include the auctioned spectrum, the divested spectrum, but not all of the 900MHz and other 1800MHz spectrum, some of which Ofcom expects would still be used for 2G.

    b. Capacity and average data rate – longer term: capacity suitable for data services in the longer term, when it would be possible to refarm all the 900MHz and 1800MHz to LTE (whether or not national wholesalers actually find it more profitable to retain a small amount of this for 2G or 3G use).

    c. Early route to LTE: the ability to launch an LTE service either before or soon after the auction. It will be possible to do this with the 800MHz and 2.6GHz spectrum in the auction, with the divested 1800MHz spectrum, and Ofcom expects that Everything Everywhere will be able to do this using some of its retained 1800MHz spectrum.

    d. Highest peak data rate with LTE Release 8 or 9, which is what we expect to be used in the UK initially after the auction. With early LE the highest peak data rates can be delivered with contiguous blocks of 2x20MHz.

121. The data for each measure can be placed in the matrix and augmented with a colour code as set out at §4.13:

    a. Cells marked green imply that the spectrum would allow a national wholesaler to deliver the relevant dimension of service

    b. Cells are marked amber where the assessment is not clear, or where the spectrum may be sufficient to deliver the relevant dimension of service to a partial extent; and

    c. Cells are marked red to imply that the spectrum is not sufficient to allow the national wholesaler to deliver the dimension of service.

Existing spectrum portfolios

Portfolios as presented by Ofcom

122. The following table reproduces Annex 6 Tables 4.2, 4.3 & 4.4. For simplicity we use Telefónica's spectrum holdings as a proxy for Vodafone's in the same manner as Ofcom does in its analysis. The percentages in row (2) relate to total spectrum including that available at auction, as described in footnote 160 of Annex 6.

Figure 1 : Existing spectrum portfolios

Everything Everywhere	A. 2.6 GHz & below	B. 2.1 GHz & below	C. Sub-1GHz spectrum		Telefónica	A. 2.6 GHz & below	B. 2.1 GHz & below	C. Sub-1GHz spectrum
1. Capacity and average data rate – near term	2x40Hz	2x40MHz			1. Capacity and average data rate – near term	2x15-20MHz	2x15-20MHz	2x5-10MHz
2. Capacity and average data rate – longer term	2x65MHz (24%)	2x65MHz (33%)	- (0%)		2. Capacity and average data rate – longer term	2x33MHz (12%)	2x33MHz (17%)	2x17.4MHz (27%)
3. Early route to LTE	2x20MHz	2x20Mhz			3. Early route to LTE	-	-	-
4. Highest peak data rate with early LTE	2x20MHz	2x20MHz			4. Highest peak data rate with early LTE	-	-	-
Hutchison	**A. 2.6 GHz & below**	**B. 2.1 GHz & below**	**C. Sub-1GHz spectrum**					
1. Capacity and average data rate – near term	2x15MHz	2x15MHz						
2. Capacity and average data rate – longer term	2x15MHz (6%)	2x15MHz (8%)	- (0%)					
3. Early route to LTE								
4. Highest peak data rate with early LTE								

Source : Ofcom

Portfolios addressing HSPA+ in a symmetric manner

123. In the following tables we make two adjustments to the information in Figure 1, to act symmetrically regarding the ability of HSPA+ to compete with LTE:

    a. In Figure 2 we show that all operators can supply HSPA+ in competition to LTE and we note that the dense cell grid of EE / Hutchison means that 900MHz operators have no meaningful competitive advantage in that regard; whereas

    b. In Figure 3 we show that HSPA+ is not a competitive technology to LTE.

Figure 2 : Existing spectrum portfolios, HSPA+ is a competitive technology to LTE

Everything Everywhere	A. 2.6 GHz & below	B. 2.1 GHz & below	C. Sub-1GHz spectrum		Telefónica	A. 2.6 GHz & below	B. 2.1 GHz & below	C. Sub-1GHz spectrum
1.	2x40Hz	2x40MHz			1.	2x15-20MHz	2x15-20MHz	2x5-10MHz
2.	2x65MHz (24%)	2x65MHz (33%)	(0%)		2.	2x33MHz (12%)	2x33MHz (17%)	2x17.4MHz (27%)
3.	2x20MHz	2x20Mhz			3.	-	-	-
4.	2x20MHz	2x20MHz			4.	-	-	-
Hutchison	**A. 2.6 GHz & below**	**B. 2.1 GHz & below**	**C. Sub-1GHz spectrum**					
1.	2x15MHz	2x15MHz						
2.	2x15MHz(6%)	2x15MHz(8%)	-(0%)					
3.								
4.								

Figure 3 : Existing spectrum portfolios, HSPA+ is not a competitive technology to LTE

Everything Everywhere	A. 2.6 GHz & below	B. 2.1 GHz & below	C. Sub-1GHz spectrum		Telefónica	A. 2.6 GHz & below	B. 2.1 GHz & below	C. Sub-1GHz spectrum
1.	2x40Hz	2x40MHz			1.	2x15-20MHz	2x15-20MHz	2x5-10MHz
2.	2x65MHz (24%)	2x65MHz (33%)	(0%)		2.	2x33MHz (12%)	2x33MHz (17%)	2x17.4MHz (27%)
3.	2x20MHz	2x20Mhz			3.	-	-	-
4.	2x20MHz	2x20MHz			4.	-	-	-
Hutchison	**A. 2.6 GHz & below**	**B. 2.1 GHz & below**	**C. Sub-1GHz spectrum**					
1.	2x15MHz	2x15MHz						
2.	2x15MHz(6%)	2x15MHz (8%)	-(0%)					
3.								
4.								

124. It is clear to see when comparing Figure 1 with Figure 2 and Figure 3, that a symmetric treatment of HSPA+, in either direction, leads to Telefónica having a risk profile closer to that of Hutchison than to Everything Everywhere, when compared to the analysis presented by Ofcom which, we believe, is highly selective in its assessment of HSPA+ as a competitive technology.

Relative position of Hutchison, under P1 or P2

125. In the next two charts we update Figure 2 and Figure 3 to include two versions of Hutchison's figures once it has certainty of outcome over the proposed reservations P1 and P2, that is 2x10MHz 800MHz or 2x15MHz 1800MHz. The latter also serves as the proxy for Hutchison acquiring the divestment spectrum in any private sale ahead of the auction.

Figure 4 : Existing spectrum portfolios, HSPA+ is a competitive technology to LTE

Everything Everywhere	**A. 2.6 GHz & below**	**B. 2.1 GHz & below**	**C. Sub-1GHz spectrum**		**Telefónica**	**A. 2.6 GHz & below**	**B. 2.1 GHz & below**	**C. Sub-1GHz spectrum**
1.	2x40Hz	2x40MHz			1.	2x15-20MHz	2x15-20MHz	2x5-10MHz
2.	2x65MHz (24%)	2x65MHz (33%)	(0%)		2.	2x33MHz (12%)	2x33MHz (17%)	2x17.4MHz (27%)
3.	2x20MHz	2x20Mhz			3.	-	-	-
4.	2x20MHz	2x20MHz			4.	-	-	-
Hutchison +P1	**A. 2.6 GHz & below**	**B. 2.1 GHz & below**	**C. Sub-1GHz spectrum**		**Hutchison +P2**	**A. 2.6 GHz & below**	**B. 2.1 GHz & below**	**C. Sub-1GHz spectrum**
1.	2x25MHz	2x25MHz	2x10MHz		1.	2x30MHz	2x30MHz	
2.	2x25MHz (9.4%)	2x25MHz (12.8%)	2x10MHz (15.4%)		2.	2x30MHz (11.3%)	2x30MHz (15.3%)	-(0%)
3.	2x10	2x10	2x10		3.	2x15	2x15	
4.	2x10	2x10	2x10		4.	2x15	2x15	

126. It is plain to see from this chart, that even the smallest reservation significantly improves Hutchison's relative position to Telefónica and Everything Everywhere:

a. Under either reservation it already has a guaranteed early route to LTE, Telefónica does not;

b. Under the P1 reservation, uniquely it is the only bidder with a pre-existing ability to deliver an LTE service using a sub-1GHz carrier, if this is relevant. It is only 0.6% below Ofcom's target range of 10-15% total capacity;

c. Under P2, Hutchison is in a nearly identical position to Telefónica with regards to capacity but has the advantage of already having secured an early route to LTE, with 2x15MHz 1800MHz, which Ofcom accepts is equivalent to the performance of 2x10MHz sub-1GHz spectrum in most circumstances (should that be relevant).

Figure 5 : Existing spectrum portfolios, HSPA+ is not a competitive technology to LTE

Everything Everywhere	A. 2.6 GHz & below	B. 2.1 GHz & below	C. Sub-1GHz spectrum		Telefónica	A. 2.6 GHz & below	B. 2.1 GHz & below	C. Sub-1GHz spectrum
1.	2x40Hz	2x40MHz			1.	2x15-20MHz	2x15-20MHz	2x5-10MHz
2.	2x65MHz (24%)	2x65MHz (33%)	(0%)		2.	2x33MHz (12%)	2x33MHz (17%)	2x17.4MHz (27%)
3.	2x20MHz	2x20Mhz			3.	-	-	-
4.	2x20MHz	2x20MHz			4.	-	-	-
Hutchison +P1	**A. 2.6 GHz & below**	**B. 2.1 GHz & below**	**C. Sub-1GHz spectrum**		**Hutchison +P2**	**A. 2.6 GHz & below**	**B. 2.1 GHz & below**	**C. Sub-1GHz spectrum**
1.	2x25MHz	2x25MHz	2x10MHz		1.	2x30MHz	2x30MHz	
2.	2x25MHz (9.4%)	2x25MHz (12.8%)	2x10MHz (15.4%)		2.	2x30MHz (11.3%)	2x30MHz (15.3%)	-(0%)
3.	2x10	2x10	2x10		3.	2x15	2x15	
4.	2x10	2x10	2x10		4.	2x15	2x15	

127. In the circumstance whereby HSPA+ is not a competitive alternative to LTE, then with P1 or P2 in the bag, Hutchison is in a vastly superior position to Telefónica before we consider the other spectrum to be contested. This underlines the need for Ofcom to either take a clear and consistent position on HSPA+ or analyse this risk systematically.

128. In the next two charts we update Figure 2 and Figure 3 to show Hutchison with P1[59], and one of Telefónica or Vodafone having acquired the divestment in any private sale ahead of the auction.

[59]The default outcome of any reservation if the 1800MHz divestment is not already owned by Hutchison or in the auction.

Figure 6 : Existing spectrum portfolios, HSPA+ is a competitive technology to LTE

Everything Everywhere	A. 2.6 GHz & below	B. 2.1 GHz & below	C. Sub-1GHz spectrum		Telefónica	A. 2.6 GHz & below	B. 2.1 GHz & below	C. Sub-1GHz spectrum
1.	2x40Hz	2x40MHz			1.	2x15-20MHz	2x15-20MHz	2x5-10MHz
2.	2x65MHz (24%)	2x65MHz (33%)	(0%)		2.	2x33MHz (12%)	2x33MHz (17%)	2x17.4MHz (27%)
3.	2x20MHz	2x20Mhz			3.	-	-	-
4.	2x20MHz	2x20MHz			4.	-	-	-
Hutchison +P1	**A. 2.6 GHz & below**	**B. 2.1 GHz & below**	**C. Sub-1GHz spectrum**		**Telefónica + P2**	**A. 2.6 GHz & below**	**B. 2.1 GHz & below**	**C. Sub-1GHz spectrum**
1.	2x25MHz	2x25MHz	2x10MHz		1.	2x30-45MHz	2x30-45MHz	2x5-10MHz
2.	2x25MHz (9.4%)	2x25MHz (12.8%)	2x10MHz (15.4%)		2.	2x48MHz (18%)	2x48MHz (24.5%)	2x17.4MHz (27%)
3.	2x10	2x10	2x10		3.	2x15	2x15	-
4.	2x10	2x10	2x10		4.	2x15	2x15	-

Figure 7 : Existing spectrum portfolios, HSPA+ is not a competitive technology to LTE

Everything Everywhere	A. 2.6 GHz & below	B. 2.1 GHz & below	C. Sub-1GHz spectrum		Telefónica	A. 2.6 GHz & below	B. 2.1 GHz & below	C. Sub-1GHz spectrum
1.	2x40Hz	2x40MHz			1.	2x15-20MHz	2x15-20MHz	2x5-10MHz
2.	2x65MHz (24%)	2x65MHz (33%)	(0%)		2.	2x33MHz (12%)	2x33MHz (17%)	2x17.4MHz (27%)
3.	2x20MHz	2x20Mhz			3.	-	-	-
4.	2x20MHz	2x20MHz			4.	-	-	-
Hutchison +P1	**A. 2.6 GHz & below**	**B. 2.1 GHz & below**	**C. Sub-1GHz spectrum**		**Telefónica +P2**	**A. 2.6 GHz & below**	**B. 2.1 GHz & below**	**C. Sub-1GHz spectrum**
1.	2x25MHz	2x25MHz	2x10MHz		1.	2x30-45MHz	2x30-45MHz	2x5-10MHz
2.	2x25MHz (9.4%)	2x25MHz (12.8%)	2x10MHz (15.4%)		2.	2x48MHz (18%)	2x48MHz (24.5%)	2x17.4MHz (27%)
3.	2x10	2x10	2x10		3.	2x15	2x15	-
4.	2x10	2x10	2x10		4.	2x15	2x15	-

129. In Figure 6, the material differences between the four players are:

    a. Hutchison has fractionally less spectrum (0.6%) than Ofcom's 10%-15% threshold, but it has a sub-1GHz solution for LTE;

    b. one of Vodafone or Telefónica, having acquired the divestment, ("the second player") would be in a markedly different starting position from the "third player", without the divestment. Specifically, the second player would have

        i. no capacity risk, compared to the third player; and

        ii. an early route to LTE, whereas the third player would be the only existing operator without an early route to LTE.

130. In Figure 7, if HSPA+ is not competitive then the "third player's" vulnerability to strategic behaviour is increased.

131. We explore how this change in relative position upsets Ofcom's assertions about strategic bidding incentives in the next section of this response. But it is already clear to see that there is a very different focus for strategic behaviour in these circumstances – the third, rather than the fourth player is now the obvious focus[60].

132. At this stage we would note that, all other things being equal, there would appear to be no case to assist Hutchison beyond P1 or P2, if parity of position entering the auction is an important consideration. Further, if the divestment is made by way of a private sale, then there is a strong case for a further P1 reservation for the "loser" out of Vodafone or Telefónica, if parity of opening position is a relevant consideration. For completeness we show the outcome of such a reservation scheme below.

[60] Foreclosing (consolidating) the third player is demonstrably a valuable and affordable strategy, as evidenced by Hutchison's acquisition in Austria.

Figure 8 : Existing spectrum portfolios, HSPA+ is a competitive technology to LTE

Everything Everywhere	A. 2.6 GHz & below	B. 2.1 GHz & below	C. Sub-1GHz spectrum		Telefónica + P1	A. 2.6 GHz & below	B. 2.1 GHz & below	C. Sub-1GHz spectrum
1.	2x40Hz	2x40MHz			1.	2x25-30MHz	2x25-30MHz	2x15-20MHz
2.	2x65MHz (24%)	2x65MHz (33%)	(0%)		2.	2x43MHz (16.2%)	2x43MHz (22%)	2x27.4MHz (42%)
3.	2x20MHz	2x20Mhz			3.	2x10	2x10	2x10
4.	2x20MHz	2x20MHz			4.	2x10	2x10	2x10
Hutchison + P1	**A. 2.6 GHz & below**	**B. 2.1 GHz & below**	**C. Sub-1GHz spectrum**		**Telefónica + P2**	**A. 2.6 GHz & below**	**B. 2.1 GHz & below**	**C. Sub-1GHz spectrum**
1.	2x25MHz	2x25MHz	2x10MHz		1.	2x30-45MHz	2x30-45MHz	2x5-10MHz
2.	2x25MHz (9.4%)	2x25MHz (12.8%)	2x10MHz (15.4%)		2.	2x48MHz (18%)	2x48MHz (24.5%)	2x17.4MHz (27%)
3.	2x10	2x10	2x10		3.	2x15	2x15	-
4.	2x10	2x10	2x10		4.	2x15	2x15	-

Figure 9 : Existing spectrum portfolios, HSPA+ is not a competitive technology to LTE

Everything Everywhere	A. 2.6 GHz & below	B. 2.1 GHz & below	C. Sub-1GHz spectrum		Telefónica + P1	A. 2.6 GHz & below	B. 2.1 GHz & below	C. Sub-1GHz spectrum
1.	2x40Hz	2x40MHz			1.	2x25-30MHz	2x25-30MHz	2x15-20MHz
2.	2x65MHz (24%)	2x65MHz (33%)	(0%)		2.	2x43MHz (16.2%)	2x43MHz (22%)	2x27.4MHz (42%)
3.	2x20MHz	2x20Mhz			3.	2x10	2x10	2x10
4.	2x20MHz	2x20MHz			4.	2x10	2x10	2x10
Hutchison +P1	**A. 2.6 GHz & below**	**B. 2.1 GHz & below**	**C. Sub-1GHz spectrum**		**Telefónica +P2**	**A. 2.6 GHz & below**	**B. 2.1 GHz & below**	**C. Sub-1GHz spectrum**
1.	2x25MHz	2x25MHz	2x10MHz		1.	2x30-45MHz	2x30-45MHz	2x5-10MHz
2.	2x25MHz (9.4%)	2x25MHz (12.8%)	2x10MHz (15.4%)		2.	2x48MHz (18%)	2x48MHz (24.5%)	2x17.4MHz (27%)
3.	2x10	2x10	2x10		3.	2x15	2x15	-
4.	2x10	2x10	2x10		4.	2x15	2x15	-

133. The inescapable conclusion we draw is, that if the divestment spectrum is sold via a private transaction to one of Vodafone or Telefónica then, a further reservation of 2x10MHz spectrum for the "loser" in that transaction is justified based on the analytical framework set out by Ofcom.

Residual spectrum requirements assuming four players

134. On p.97-98 of Annex 6 Ofcom outlines the "task" facing each operator in achieving a portfolio of spectrum that Ofcom deems required to become a credible national wholesaler. In the table below we identify the task faced by each operator, taking into account our analysis in Figure 1 to Figure 9. We express that task as a % of the residual spectrum available in the auction in three ways:

    a. As a % of the total relevant spectrum available;

    b. As a % of the total relevant spectrum available but reducing supply to take account of reservations under the scenario considered;

    c. As (b) but assuming that all other operators have acquired what they need to meet their minimum portfolio (including any reservations), ie we present the task for the "third player", the player in question is the next weakest bidder and the one most prone to strategic behaviour – under the reasoning posited by Ofcom which we discuss in the next section; and

    d. As (c) but including a 2x10MHz 2600MHz reservations for sub-national RANs

135. In the following table:

    a. Where no reservation is made for a player, that each player's task relates to its smallest portfolio group and the medium portfolio task is shown in [x];

    b. Where a reservation is made, we equate the task to achieving the rest of the smallest portfolio with the medium portfolio shown in [x];

    c. Where the divestment has gone to TEF or VOD, the "loser's" task is stated

    d. We group 800MHz and 1800MHz in a sub-2GHz category, as Ofcom's analysis supports our view that they are near-substitutes, we show 2600MHz demand separately.

136. EE is not addressed in the analysis as it has already achieved a minimum portfolio. We ignore Portfolios 4,14 and 20 as Ofcom makes a strong assumption about three players securing 2x10MHz 800MHz.

Figure 10 : Task faced by each of the existing players in achieving their minimum portfolio

	Residual Task	(a) % of relevant spectrum for sale ignoring reservations / divestment sale	(b) % of available spectrum minus reservation for national wholesalers	(c) as (b) but assuming other portfolios met.	(d) as (c) but including 2x10MHz reservation for sub-national RANs.
No reservations [Figure 1]	Hutchison				
	Sub-2GHz	22%-33% [22-33%]	As (a)	22%-33% [40-60%]	22%-33% [40-60%]
	2600MHz	0% [14%]		0% [33%]	0% [50%]
	Telefónica				
	Sub-2GHz	0% [22%-33%]	As (a)	0% [40-60%]	0% [40-60%]
	2600MHz	14% [29%]		17% [50%]	20% [66%]
As Fig 1, but Hutch has P1 [Figures 4 & 5]	Hutchison				
	2600MHz	0% [14%]	As (a)	0% [33%]	0% [50%]
	Telefónica				
	Sub-2GHz	0% [22%-33%]	0% [29%-43%]	0% [40%-60%]	0% [40%-60%]
	2600MHz	14% [29%]	14% [33%]	17% [50%]	20% [66%]
As Fig 1, but Hutch has P2 [Figures 4 & 5]	Hutchison				
	2600MHz	0% [14%]	As (a)	0% [33%]	0% [50%]
	Telefónica				
	Sub-2GHz	0% [22%-33%]	0% [33%]	0% [50%]	0% [50%]
	2600MHz	14% [29%]	14% [33%]	17% [50%]	20% [66%]
As Fig 4 & 5, but Hutch has P1 and VOD has P2 via private sale [Figures 6 & 7]	Hutchison				
	2600MHz	0% [14%]	As (a)	0% [20%]	0% [25%]
	Telefónica				
	Sub-2GHz	0% [22%-33%]	0% [50%]	0% [50%]	0% [50%]
	2600MHz	14% [29%]	14% [33%]	14% [33%]	17% [40%]
As Fig 6 & 7, but further P1 reservation for private sale "loser" [Figures 8 & 9]	Hutchison				
	2600MHz	0% [14%]	As (a)	0% [14%]	0% [17%]
	Telefónica				
	Sub-2GHz	0% [22%-33%]	0% [0%]	0% [0%]	0% [0%]
	2600MHz	14% [29%]	0% [0%]	0% [0%]	0% [0%]

137. Symmetric application of the need for small portfolios would imply that:

    a. Hutchison has a unique exposure risk (22-33%) to acquiring sub-2GHz spectrum. Ofcom needs to determine, therefore, whether this risk is material before deciding whether a justification for P1 or P2 is required; and

    b. Reservation of spectrum for sub-national RANs increase the exposure risk for TEF/VOD at 2600MHz to a level similar (20%) to that endured by Hutchison in the sub-2GHz band. A decision to include a reservation for sub-national RANs would, in our strong view, be irrational in these circumstances. The risks of regulatory failure are too great, especially as Ofcom accepts, in terms, that the competition benefits of sub-national RANs are speculative and unproven.[61] The most proportionate solution to mitigating this large risk of failure is to make the 2x10MHz 2600 contestable, as in the March 2011 proposals.

138. Symmetric application of the need for medium portfolios means that:

    a. The "weakest" of TEF, VOD or Hutchison is exposed to a significant risk (40-60%) in acquiring sub-2GHz spectrum, assuming stronger bidders secure their portfolios. There is nothing unique about Hutchison's risk;

    b. Reserving P1 or P2 for Hutchison does little to the sub-2GHz risk of TEF or VOD. However, including 2x10MHz 2600MHz as well, reduces supply to 2x60MHz and increases TEF/VOD's task to 50%. A further reduction in supply caused by any sub-national RAN reservation increases the task still further, to 66%. We note that both these percentages are comparable to the risk level (40-60%) used by Ofcom to justify a sub-2GHz reservation.

    c. The conduct of the divestment via private sale (to one of VOD/TEF) prior to the 800/2600 auction reduces exposure in the 2600MHz band for all bidders whilst increasing the risks of strategic behaviour at sub-2GHz as only one 900MHz operator would be exposed.

139. We note that, in conducting its analysis in Section 4 (specifically §§4.87-4.91) Ofcom determines that it must act symmetrically and that medium portfolios are required by Hutchison (or a new entrant), Telefónica and Vodafone. It is only later in Section 5 that Ofcom determines that no measures are required to secure a medium portfolio for either Telefónica or Vodafone.

140. In particular, Ofcom refers to the "*reduction of risk*"[62] as an important factor in choosing medium over smaller portfolios. We have shown above that if medium portfolios are required then the risks are symmetric between Hutchison, Vodafone and Telefónica. It is

[61] Annex 6 §9.28 *"However, the scale, innovation, and ultimate success of such new services are necessarily subject to a degree of uncertainty. As such, their benefit to consumers and their impact on competition are also uncertain."*

[62] Annex 6§4.91

only if smaller portfolios are required that Hutchison is exposed to higher risks of becoming a credible fourth national wholesaler.

141. It is of note that, with P1 or P2 in place, the required volume of spectrum needed by Hutchison is reduced to a level lower than the volume of spectrum it acquired in equivalent processes in Austria[63], Sweden[64] and Italy[65]. The processes in each of these countries were more prone to strategic behaviour due to their transparency. Again, this is strong evidence that any reservation beyond P1 or P2 is disproportionate. The facts are indisputable, it is unclear why Ofcom has not taken note of Hutchison's performance in other EU auctions, where it is a "fourth player".

Conclusions based on Ofcom's analytical framework

142. The framework used to analyse the strengths and weaknesses of different national wholesaler's spectrum portfolios is a vast improvement on Ofcom's previous approach. However, Ofcom's failure to recognise the impact of reservations on other bidders leads it to draw erroneous conclusions.

143. A proper assessment of benefits and costs of reservations suggests that, absent considerations of strategic incentives and valuations, if it is valid to be concerned about securing a "three plus one" outcome, as we believe the evidence supports, no reservation at all.

144. If, notwithstanding our analysis, a "four player" outcome is to be secured and the divestment spectrum is released in the auction then:

    a. parity of starting position ahead of the auction provisionally suggests reservations P1 or P2 are proportionate for Hutchison from a benefits perspective;

    b. if risks in acquiring spectrum are to be addressed, symmetrically, then this provisionally suggests that reservation P1 or P2 is <u>all</u> that is justified for Hutchison, from a benefits perspective;

    c. reservation of P1 or P2 displaces the sub-2GHz exposure problem onto both 900MHz players and Ofcom must therefore properly assess the consequent risks of strategic bidding before drawing any firmer conclusions as to the proportionality of the reservation from a costs perspective; and

[63] 3 Austria acquired 2x20MHz 2600MHz, notwithstanding it is the "fourth player". In that process the "third player" acquired 2x10MHz. The 800MHz process has yet to take place in Austria.
[64] Hi3G acquired 2x10MHz 800MHz (notwithstanding it is the "fourth player") and 2x10MHz 2600MHz, followed by 50MHz TDD in the secondary market.
[65] 3 Italia acquired 2x15MHz FDD and 30MHz TDD capacity.

d. again, reservation for sub-national RANs would be an irrational conclusion, as it increases the exposure problem for national wholesalers. A contestable assignment is the best way to avoid regulatory failure[66].

145. If, notwithstanding our analysis, a "four player" outcome is to be secured but the divestment spectrum is sold to Vodafone or Telefónica before the auction, then all these conclusions are still valid and in addition:

a. Ofcom needs to carefully examine the exposure of the "loser" in the divestment process to strategic bidding for sub-1GHz spectrum. If there is a large exposure, a further P1 reservation would be required for the "loser".

[66] We note that failure here would not be reversible (by trade or merger) because of the diversified rights ownership inherent in the sub-national RAN licence.

6. Valuations and strategic behaviour

Introduction

146. Following Ofcom's assessment methodology, having defined the scale of the risks on each party, we now move onto determining *"how likely those auction outcomes are to come about, if there are no measures in the auction, ie the concern that, if entities need to acquire spectrum in the auction, they fail to do so."*[67]

147. Like Ofcom we explore strategic behaviour, *"the entirely rational and legitimate course of action from a commercial perspective."*[68]

148. Ofcom posits that the valuation placed on spectrum by bidders is *"likely …to be determined by the bidders' expected difference in profits from supplying wholesale and retail services with and without the spectrum in question."* Telefónica makes no comment as to the validity of this valuation methodology in our case, however, in order to adequately engage on Ofcom's analysis we adopt it as our working hypothesis.

149. Ofcom posits two sources of value within this overall valuation:

    a. Intrinsic value – the present value of additional profits a bidder expects to earn when holding the spectrum compared to not holding it; and

    b. Strategic investment value – the present value of additional expected profits earned from bids aimed at affecting the future structure of competition in the downstream market.

150. We draw a distinction between acquiring marginal spectrum which may reduce costs (increase profits) or allow more customers to be served more effectively (increase market share) – what we will term "accretive value", which is a legitimate element of intrinsic value, as distinct from strategic value which is only accrued from a diminution of competitive intensity caused by a loss of credibility by a competitor. This loss of credibility is addressed in the previous section and will be different in terms of the "four player" or "three plus one" hypotheses.

151. There is a second contributor to intrinsic value, "defensive value", which relates to the projected future profits to the firm from the customers they already serve. We believe it is important to look at these two forms of intrinsic value separately, as they are relevant to the consideration of the pay-off of strategic behaviour.

[67] Annex 6 §5.1
[68] Ibid §5.2

Intrinsic valuations

152. From §§5.14-5.38 Ofcom embarks on an exhaustive discussion of intrinsic value. We summarise the various contributing factors in the table below.

Figure 11 : Contributors to intrinsic value

Factor	Ofcom's assessment[69]	Commentary
Existing holdings and quantity sought (accretive value)	1. Marginal valuations are lower the more spectrum an operator owns. 2. Spectrum not heterogeneous and 800MHz might be more valuable than 1800MHz. 3. Capability synergies exist, larger blocks provide greater capability so their value is not just about capacity.	We observe that if an operator wishes to grow its market share it will need the resources to do so. Therefore there is an accretive value to acquiring the marginal lot of spectrum, distinct from its opportunity cost (network costs). In addition, bidders such as Hutchison and EE will have lower valuations for capacity, as they already have access to large dense cell grids – which Ofcom identifies as an alternative means of securing capacity. Unlike Vodafone and Telefónica, EE and Hutchison have limited incremental costs to increase their capacity absent a marginal volume of spectrum.
Existing position in the market (defensive value)	1. Bidders with large existing customer bases can gain value faster, due to the costs of retention being lower than acquisition. This would lower the value of spectrum to Hutchison relative to other larger bidders. However, there are no absolute barriers to expansion. 2. Mitigating this is an affect on the value of existing customers caused by making lower value offers at upgrade. (a "cannibalisation effect").	At A6 §5.31 Ofcom suggests that the existing market share is the predominant reason why it is concerned about Hutchison's intrinsic valuation of spectrum, whereas it has little concern about the valuations of EE, Vodafone or Telefónica.
Capabilities of the firm	It is difficult to determine whether there are differing capabilities between bidders, that are sufficient to affect valuation.	We agree.
Valuation error	There may be significant private valuation errors that would be unaffected by observing bidding in the auction.	We note that even small differences in valuation can be highly determinative of the outcome in an auction[70]. Ofcom will need to clearly demonstrate that valuation differences predominate over the risk of forecasting errors, which will affect all firms.

153. Ofcom's overriding hypothesis is that fourth players will have lower valuations of spectrum. This is not always borne out by the empirical evidence – especially the evidence gathered by Ofcom itself in Annex 12:

[69] Assuming no strategic valuation issues.
[70] A6 §5.117

a. Austria : In the 2600MHz auction Hutchison (the fourth player) purchased twice as much spectrum as the third player (Orange).

b. France : In the 2600MHz auction, Illiad, by far the smallest operator, won more spectrum than both the second and the third players.

c. Germany : In a multi-band award, Telefónica, the smallest player, won 800MHz spectrum, but the third player won more capacity. Vodafone, the second player, now has substantially less capacity than its rivals.

d. Sweden : In the 800MHz auction, Hi3G (Hutchison) the fourth player, won twice as much spectrum as both the third and second players.

154. We agree with Ofcom's assessment, at A6 §5.38, that forecasting intrinsic valuations is a difficult task. Therefore, any decision whereby intrinsic valuation is a large contributing factor must be highly vulnerable.

Strategic valuations and behaviour

155. Section 5 of Annex 6 provides a very long exploration of the issue of strategic behaviour, in particular how Ofcom believes it may affect different types of bidder with different starting holdings and intrinsic valuations. We bring together the main elements of this analysis in the table below.

Figure 12 : Contributors to strategic behaviour

Factor[71]	**Ofcom's assessment**	**Implication**
Amount of spectrum required [§5.50]	The less spectrum required for a bidder to become a credible wholesaler, the less the likelihood that strategic behaviour is feasible. The strategic bidder must acquire a lot of spectrum to deny the "victim" the small volume of spectrum it requires.	This demonstrates that Ofcom must properly assess the effect of each incremental element of spectrum reservations. Even small reservations will reduce the risk to Opted-in Bidders on the marginal pieces of spectrum they need to complete their portfolio, making them much less prone to strategic behaviour.
Type of spectrum required [§5.50]	The more specific the requirement (in terms of frequency) the less options available and therefore the higher the risk of strategic behaviour.	Reservations are more justified if they relate to a specific need, rather than capacity in general, where there are more options.
The smaller the number of potential strategic investors, the lower the incentives to free-ride. [§5.68]	Potential strategic investors will be more confident that another bidder will undertake the required task.	

[71] Including reference in the Consultation.

Factor	Ofcom's assessment	Implication
Free riding incentives will be stronger if co-ordination is required [§5.69]		Suggests that strategic behaviour that requires co-ordination in the 800MHz band (ie requires TEF/VOD and EE to act in concert) will be less likely than scenarios where EE can act alone or Hutchison can act alone.
Co-ordination is more likely if the focus of behaviour is obvious [§5.147]	If there is an obvious way for a number of bidders totcitly co-ordinate their behaviour this makes it more likely to happen.	The more obvious the tactic, the more likely it is to take place.
If a medium portfolio is required, strategic behaviour in the 800/1800 band can be sufficient, with no need to act strategically in the 2600 band. [§5.159]		If the 800/1800 band is secured by a small reservation then there is less ability to impede the acquisition of incremental capacity because there are many more options available.

156. In its analysis at A6 §§5.44-5.73, Ofcom puts forward two issues relating to strategic behaviour that it believes to be relevant, all of these questions must be answered in the affirmative:

    a. Is it feasible?

    b. Does the strategy pay-off?

The pay-off

157. At A6 §5.41, Ofcom sets out its hypothesis – that spectrum is so pivotal to market players that denying the resource to some players may reduce competitive intensity.

> "*....the outcome of the auction could potentially shape the future competitiveness of the mobile sector for a long period. Recognising this potential lasting impact, some national wholesalers might have an incentive to buy more spectrum than would otherwise be the case with the aim of weakening rivals and thereby reducing the competitive constraint that they will face in future in mobile services.*"

158. We note that the Department of Justice's position in AT&T/T-MUSA is fundamentally at odds with this proposition. We look forward to further understanding why Ofcom believes that the DoJ is wrong in its assessment that HSPA+ at 2100MHz is a sufficient competitive constraint on LTE players – ie the outcome of this auction will not be pivotal in determining competitive intensity going forward.

159. We note that Hutchison Whampoa is willing to spend €1.3bn consolidating the Austrian market. Under Ofcom's hypothesis part of this valuation will be driven by the consequent reduction in competition and margin improvement. What this transaction should also tell Ofcom is that fourth players are just as likely to engage in strategic behaviour as any other player in the market. Clearly Hutchison Whampoa is well resourced and sees this as a

profitable exercise. It is therefore vitally important that Ofcom ensures that it does not create a strategic foreclosure opportunity for Hutchison Whampoa, by increasing the risks on Vodafone or Telefónica in acquiring the spectrum they need to compete in the UK market.

Feasibility of strategic investment

160. In Ofcom's view[72], "*a first condition for the feasibility of strategic investment is the existence of one or more operators that currently do not hold sufficient spectrum to be credible. Only such wholesalers are potentially vulnerable to strategic investment by others.*"

161. Ofcom's previous analysis, shows that there are three players prone to strategic investment by Everything Everywhere. Ofcom also states that vulnerability is a relative concept[73] "*how much additional spectrum it [an operator] needs, the narrower is the scope for strategic investment as investors must acquire more spectrum to prevent the victim from having the opportunity to be credible.*"

Figure 13 : Relative vulnerability to strategic behaviour

Portfolio required to be credible	**Hutchison**	**Hutchison + P1 or P2**	**VOD/TEF**
Small	2x10MHz 800MHz or 2x15MHz 1800MHz	Not vulnerable	2x5MHz 800MHz 2x10MHz 2600MHz Both parties still vulnerable.
Medium	2x15MHz 800MHz Or 2x10MHz 800MHz & 2x10MHz 2600MHz Or 2x15MHz 1800MHz and 2x10MHz 2600MHz	2x5MHz 800MHz Or 2x10MHz 2600MHz	2x10MHz 800MHz Or 2x15MHz 1800MHz Or 2x20MHz 2600MHz Both parties more vulnerable than Hutchison, if Hutchison has P1 or P2 reservation.

162. If small portfolios are required, then Hutchison is more vulnerable than Vodafone or Telefónica. If Hutchison has P1 or P2, Telefónica and Vodafone are now vulnerable, whereas Hutchison is no longer vulnerable.

163. If medium portfolios are required, if Hutchison has a reservation P1 or P2, then Telefónica or Vodafone are more prone to strategic behaviour than Hutchison. Either way, this suggests that P1 or P2 would be the only justifiable reservation, if we are to consider the issue of vulnerability as a relative concept.

[72] A6. §5.49
[73] Ibid §5.50

164. Under the medium scenario, if Hutchison already has P1 or P2 then the remaining issue for it not a specific frequency (sub-2GHz spectrum) but overall capacity, to move it closer to the upper bound of Ofcom's 10-15% target. As Ofcom states at A6 §5.51, in these circumstances Hutchison's exposure to strategic behaviour is greatly reduced. Further, its exposure is less than that of Telefónica or Vodafone.

When does the reservation for one party displace strategic risks onto others?

165. In its analysis of the feasibility of strategic investment, Ofcom recognises that the amount of spectrum that a strategic bidder needs to purchase, in order to execute an exclusionary strategy, will depend on the volume of spectrum purchased by other wholesalers[74]. Ofcom fails to realise that the risk is also affected by the volume of spectrum reserved for other bidders, in the same way.

166. In the assessment of the exposure of Telefónica at Annex 6 §§5.212-5.234, Ofcom simply fails to undertake this assessment taking into account any potential reservation for the fourth player, sub-national RANs and the acquisition of the minimum spectrum portfolio required by other players. In Figure 10 we identified the task faced by the "third player". In the table below we focus on medium portfolios, as this is what Ofcom believes are required, whilst it also believes that Hutchison is the only party at risk of strategic behaviour. We refer back to the contributing factors outlined in Figure 12, which are taken from Ofcom's own analysis.

[74] Annex 6 §5.216

Figure 14 : Relative vulnerability of the "third player" taking into account supply and risks of strategic behaviour

	800MHz	1800MHz	2600MHz	Assessment of strategic risk
Portfolio 6	2x10			
Portfolio 7		2x15		
Portfolio 8			2x20	
Supply				
No reservations[75]	2x20 – 2x30	0 - 2x15	2x50 - 2x70	(1) Undistorted supply conditions. (2) EE and Hutchison either on their own or together can foreclose the sub-2GHz spectrum. Foreclosure of the 2600MHz band is challenging, because 2x30-50MHz would need to be acquired. (3) If the divestment has taken place by private sale then the options are reduced and the risks feasibility of strategic behaviour is increased, as the focus of strategic behaviour can be identified more easily.
P1/P2 for Hutchison	2x10-2x20	0 – 2x15	2x50 - 2x70	(1) Portfolio 6/7 harder to achieve, but P8 is unaffected. Increased strategic risks. (2) Unaffected. (3) Risk increased, focus of behaviour is 800MHz.
Ofcom's proposed reservation for Hutchison[76]	2x10-2x20	0 – 2x15	2x40 - 2x50	(1) Reservation in the 2600MHz band means that supply is reduced in all categories. (2) Co-ordinated foreclosure in 2600MHz band now feasible, as only 2x20-2x25MHz need be acquired as excess demand, either by one bidder or in co-ordination. (3) Risk increases further as P8 becomes more exposed to strategic behaviour, P6 and P8 now both at risk.
Ofcom – Hutch and sub-national RANs	2x10-2x20	0 – 2x15	2x30 - 2x40	(1) Supply now substantially reduced in all categories. (2) Less co-ordination required, so foreclosure more likely. (3) Risk increases due to even greater P8 exposure. Increasing risk that no high speed (2x15/2x20) carrier will be available.

(1) – supply conditions; (2) – foreclosure / co-ordination risks; (3) – impact of divestment via private sale.

[75] Assuming that the "second player" has fulfilled its requirement. We assume that EE does not need to acquire spectrum.

[76] This is the same as P1/P2 for Hutchison and sub-national RANs reservation of 2x10MHz 2600MHz

167. Ofcom must assess risk of strategic behaviour symmetrically. It is our strong view that a multiple band reservation for Hutchison will increase the feasibility of strategic behaviour, if Ofcom objectively addresses the risks taking account of the reservations. These risks are further increased by reservations for sub-national RANs.

No evidence of strategic behaviour in other auctions

168. In the Consultation Ofcom relies on the outcome of other EU Member State auctions to support its conclusions. We summarise Annex 9 to the Consultation in the following table, drawing conclusions that are supported by an objective assessment of the facts. We also correct a material error in Ofcom's data relating to the Italian process.

Figure 15 : Auction Outcomes in Other Hutchison Territories

Country	Hutchison position prior to the auction	Auction structure and rules	Outcome
Austria	Fourth player by market share 2x15MHz 2100MHz	No 800MHz process yet undertaken SMRA for 2600MHz	Hutchison acquired 2x20MHz – **more** than required under Ofcom's medium minimum portfolios Hutchison acquired more spectrum than the "third player" by market share.
Denmark	Fourth player by market share 2x5MHz 900MHz 2x10MHz 1800MHz 2x15MHz 2100MHz	No 800MHz process yet undertaken SMRA for 2600MHz	Hutchison acquired 2x10MHz – **sufficient** spectrum under Ofcom's medium minimum portfolios
Sweden	Fourth player by market share 2x5MHz 900MHz 2x20MHz 2100MHz	Two processes 2600MHz first, 800MHz second. Spectrum caps SMRA	Hutchison acquired 2x10MHz 800MHz and 2x10MHz 2600MHz – **sufficient** spectrum under Ofcom's medium minimum portfolios
Italy	Fourth player by market share 2x5MHz 900MHz (from 2015) 2x10MHz 1800MHz[77] 2x15MHz 2100MHz	One process Spectrum caps SMRA	Hutchison increased its holding of 1800MHz to 2x15MHz and acquired 2x10MHz 2600MHz – **sufficient** spectrum under Ofcom's medium minimum portfolios

[77] Contrary to Ofcom's chart at Figure 9.8 in Annex 9, Hutchison was awarded 2x10MHz 1800MHz by the Italian regulator prior to the auction, as described in Hutchison's annual report of 2010 http://202.66.146.82/listco/hk/hutchison/annual/2010/telecom.pdf
"The full year result reflects lower amortisation and a one-time substantial benefit of €146 million (approximately HK$1,489 million) with reference to the assignment of two blocks of 5MHz of 1,800MHz spectrum".
It subsequently acquired an additional 2x5MHz in the auction.

169. It is noteworthy that we draw very different conclusions from Ofcom's own data set. Hutchison has been faced with two types of bidding challenge:

    a. In Sweden, in the first stage it secured its spectrum capacity but needed sub-1GHz spectrum to complete the minimum portfolio posited by Ofcom. It achieved this without the need for any reservation, as two other bidders decided that 2x5MHz 800MHz would be sufficient for their needs. This was achieved notwithstanding that the process was more prone to strategic behaviour and it was faced by three well funded bidders;

    b. In Denmark and Italy the national regulator had already assigned Hutchison 1800MHz, ie it had an outside option before the auction began and therefore Hutchison was not in an analogous position the UK. Its position was analogous to that whereby Hutchison has a P2 reservation. In each of these processes we note that Hutchison secured incremental capacity, ie it reached a position equivalent to Ofcom's minimum portfolios, without the need for further reservations.

170. The 800MHz auction process has yet to take place in Austria, but we note that this market may well be "three players" before that auction takes place. The only conclusion we draw from that is that market consolidation may well happen on its merits, spectrum may not be as determinative of market structure as Ofcom's hypothesis suggests.

171. In all cases Hutchison managed to achieve its medium minimum portfolio, as defined by Ofcom. In all cases no reservations were made in the auction to secure the incremental capacity in the 2600MHz band. This strongly supports our view that P1 or P2 are a sufficient reservation for Hutchison. They have been sufficient elsewhere, why is the UK any different?

The evidence does not support a decision to discriminate based on intrinsic valuation

172. At the end of Section 4 in Annex 6, Ofcom sets out that it will consider national wholesalers in three categories:

    a. EE, which already has sufficient spectrum to be a national wholesaler

    b. Vodafone / Telefónica, which may need some more capacity and/or need low frequency spectrum if HSPA+ at 900MHz is not a substitute or LTE900 does not prove to be a viable option

    c. Hutchison, which needs to acquire spectrum in the auction.

173. At A6 §§5.115-5.116 Ofcom concludes that Hutchison's small market share will lead it to have a lower intrinsic value of spectrum than other bidders, *ergo*, it would not acquire what it needed in the auction, irrespective of whether or not there were strategic behaviour by its competitors.

> *"H3G's smaller existing holdings mean it might place a high value on obtaining more spectrum (i.e. it is higher up its demand curve than other national*

wholesalers). However we identify reasons why others may have a strong valuation despite their existing holdings, including the importance of sub-1GHz spectrum and spectrum suitable for an early route to LTE (which is likely to mitigate any cannibalisation effect). We consider that, on balance, H3G's smaller existing customer base is likely to reduce its value of spectrum relative to other national wholesalers to some degree. Although there is uncertainty as to the size of the effect, even small differences in intrinsic values may have a large impact on the outcome of the auction, and hence on competition and consumers.

The same reasoning broadly applies to a new entrant, except that a new entrant has no spectrum and may have no customer base (depending on the nature of the new entrant). However, a new entrant would also need to incur the sunk costs associated with entry including investment in a network and potentially costs at the retail level."

174. By contrast, when assessing the likelihood that Telefónica or Vodafone will be the victims of strategic behaviour Ofcom contents itself that their intrinsic valuations will be large enough to fully mitigate any risks[78].

> *"In the applicable technical and market conditions (i.e. a need to deliver LTE services soon and a need for capacity) Vodafone and Telefónica should have a high intrinsic value for the relevant spectrum.*
>
> *We therefore have no reason to expect that Vodafone and Telefónica would not be able to acquire the spectrum they need in the auction owing to a low intrinsic value compared to other bidders.*"

175. We agree with Ofcom [at Annex 6 §5.177] where it concludes that:

> *"…. it is difficult to conclude what the most likely outcome is based on intrinsic value….."*

176. It is difficult to conclude anything based on Ofcom's guesswork about intrinsic valuations. This guesswork is insufficient to make a decision to discriminate between two bidders with the same risk exposure, especially given the magnitude of the decision Ofcom is taking and its irreversibility.

177. We have shown above that in other EU Member States Hutchison won spectrum, notwithstanding its position as the fourth player with a lower intrinsic value of spectrum (sic). A more objective analysis of this observable data suggests that:

    a. Hutchison's intrinsic valuations for some spectrum assets were higher than the marginal valuations of its competitors (Sweden at 800MHz, Austria at 2600MHz); and/or

[78] Annex 6 §§5.207-5.208

b. Notwithstanding that strategic behaviour was more executable due to auction design, it was not profitable to do so (in all cases); and/or

c. In all cases where there was pre-assignment of 1800MHz spectrum (ie a P2 reservation), Hutchison was successful in achieving its capacity requirement at 2600MHz.

178. Where we have seen an existing player opt not to continue bidding on 800MHz (Spain, Italy and Germany), it is because in each case that player had a viable outside option at 1800MHz *before the auction began*. That is to say that its position was analogous to Everything Everywhere and it was *"likely to [be] able to deliver sufficient quality of coverage to be a credible national wholesaler with its significant holdings of 1800MHz and 2.1GHz spectrum".*[79] The starting conditions for the fourth player led to it having a materially different basis for valuation than Hutchison has in the UK absent any reservation.

Intervening based on current market share would create an unacceptable moral hazard

179. It appears from A6 §5.117 that Hutchison's existing market share is an important factor that leads Ofcom to suggest that there is a "material risk" that it is the party with the lowest intrinsic valuation and, all other things being equal, it would be the party that failed to secure the necessary input.

180. Ofcom has arbitrarily chosen a very narrow investment horizon on which to assess the likely bidding incentives of a *"hugely resourced global corporation"*[80]. Hutchison Whampoa has periodically increased and decreased its investment exposure to the UK market. In 1999, it booked a profit of £9.6bn[81] on the sale of its interests in Orange plc[82]. It has re-invested *some* of those profits into Hutchison 3G UK Limited. It would appear rational, looking at the UK as a long run asset investment, to pay what is required to make a long run return.

181. To base a remedies decision on a snapshot of Hutchison's *current* market position secures Hutchison Whampoa the upside of its investments in the UK, yet the UK taxpayer is required to step-in to mitigate the downside of what *currently* appears to be a poor re-investment decision.

182. Hutchison re-entered the market nearly a decade ago. Over that period it has had materially higher churn rates (ie customers leaving its network), higher complaints[83] and lower

[79] Annex 6 §4.28.
[80] Ed Richards, CMS Select Committee, 3 May 2011
[81] HK$118bn, at today's exchange rate.
[82] HWL annual report 1999, http://202.66.146.82/listco/hk/hutchison/annual/99/bushigh.pdf
[83] http://stakeholders.ofcom.org.uk/binaries/research/telecoms-research/complaints/Telecoms-ComplaintsQ3.pdf §1.8 *"Ofcom received fewer complaints over the period in question about O2 [Telefónica] compared with the other five providers, while it received the most complaints about 3UK. The complaints against 3UK appear to have been driven by complaints relating to disputed charges and customer service issues."*
Figure 6 shows 3UK's complaints running at nearly five times those of O2, when the relative subscriber base sizes are accounted for.

satisfaction with its customer service[84] than its competitors. It is not Hutchison's inability to grow that is the issue in its business model, it is the inability to retain customers, in a competitive market.

183. Deciding to intervene to prop-up the failing operator, where the existing position of that operator is a dominant factor, would create moral hazard. It would demonstrate to all bidders that, should they fail to be successful in the market, Ofcom will step in to prop them up. This increases the likelihood that operators make riskier investment decisions, safe in the knowledge that Ofcom will be handing out spectrum or other regulatory goodies as a reward, if things go wrong. There are lessons from the wider economy which highlight the regulatory risks of suggesting that some market participants are too important to fail.

184. Far from picking winners, Ofcom is essentially picking losers. This is fundamentally at odds with Ofcom's duties and regulatory principles. Ofcom is not acting in the interests of consumers if it decides to reward failure.

A two stage process would change the balance of risk for the "third player"

185. We now extrapolate our conclusions to the case whereby Ofcom decides to authorise the divestment before the auction (to a party other than Hutchison/new entrant). We note Ofcom's view expressed at Annex 6 §5.154:

> *"In particular, those wholesalers that will not acquire the divested 1800 MHz spectrum may be the target of strategic investment aimed at preventing them to access the required 800 MHz"*

186. As we highlight in Figure 14, a divestment prior to the auction, in conjunction with reduced supply conditions due to reservations means:

    a. There is more risk because the third player needs to acquire proportionately more spectrum due to reduced supply;

    b. The focus for strategic activity is readily identifiable, as the 1800MHz option is removed for the "third player";

    c. Co-ordination would not be required, EE and Hutchison both have ample space beneath their caps to squeeze out the third player, together or alone.

187. This strongly suggests that a symmetric assessment of risks and incentives, in the presence of a divestment prior to the auction, would require Ofcom to implement a further 2x10MHz 800MHz reservation for one of Telefónica or Vodafone, in the case where Vodafone or Telefónica (respectively) acquired the divestment.

Windfall gains at 800MHz will make 2600MHz profitable for Hutchison

188. We have shown that even if medium portfolios are required, any reservation beyond P1/P2 is disproportionate, due to the costs they impose on other bidders. Whilst there remains a

[84] http://stakeholders.ofcom.org.uk/binaries/research/telecoms-research/Quality-of-customer-service.pdf

risk to Hutchison in acquiring 2600MHz capacity, there are risks placed on all bidders – there is no basis on which to discriminate.

189. One mitigating factor that Ofcom will need to assess is the impact of the windfall gain, that Ofcom accepts it will be gifting to Hutchison[85]. Presumably, when calculating reserve prices Ofcom will attempt to forecast Hutchison's intrinsic value and set reserve prices at a discount to that value[86].

190. The CCA auction requires bidders to place bids on *packages*, not spectrum components in isolation. Therefore, if the 800MHz (or 1800MHz) spectrum is priced at a discount, the package Portfolio 15, for example, may still be profitable for Hutchison if the price paid for 2600MHz is determined by an undistorted auction even if that price were to be above Hutchison's intrinsic value for that component in isolation.

191. This efficient outcome is made more likely given the evidential difference in value placed on 800MHz cf. 2600MHz in other EU auctions. Annex 9 Figure 9.2 shows that the price per MHz, on average across the EU is c.20x higher for 800MHz than for 2600MHz. So, for example, if Hutchison's intrinsic value of 2x10MHz 800MHz were, say, £400m[87] and the undistorted market price of 2600MHz were that achieved in a comparable market – say Italy, where 2x10MHz 2600MHz retailed for c. £60m, Ofcom would only have to set the discount on the 800MHz spectrum at 15% to provide Hutchison with sufficient retained value to acquire the 2600MHz part of the package P15 and still make the total package a profitable investment.

192. We can see no basis under which Hutchison should benefit from a double windfall, whilst increasing the exposure and costs of its competitors.

Other implications

193. In our view, the qualified risk of strategic behaviour is the only factual point underpinning Ofcom's proposed reservation for Hutchison. Any policy proposal that Ofcom makes, which does not conform to this strategic bidding argument, will leave Ofcom with no basis on which to implement *any* reservation in this auction.

[85] Annex 6 §7.24
[86] Ibid §7.19
[87] The reserve prices posited as being "market value" in the March 2011 consultation. See Table 8.31.

7. The payment rule and windfall gains

Windfall gains

194. Ofcom explicitly accepts that one side-effect of a reservation is likely to be *material* windfall gains to the beneficiary[88]. The only analysis it makes of the effect of these gains is as it relates to downstream competition.

195. Telefónica's particular concern is whether there is an effect on prices paid for spectrum by other bidders, distinct from an effect caused by changes in supply conditions which we have discussed elsewhere. This is a question of proportionality, not about impacts downstream.

196. Ofcom argues that it is legitimate to reduce the prices of Opted-in bidders in order to meet its competition objective. However, in our view, if there is a cost associated, in higher prices to other bidders caused by the action of the pricing mechanism, then such a proposal may be disproportionate.

Distortionary pricing effect of the Competition Constraint

197. The following example demonstrates that the Competition Constraint may significantly increase the prices paid by non-Opted-in bidders.

Assumptions, Example 1

198. The following assumptions are used in this example:

    a. Four bidders, A, B, C and G (G is the Opted-in Bidder);

    b. There are six homogeneous Lots in the 800MHz band and one single Lot in the 1800MHz band; no interaction with the 2.6GHz band (which is not considered here); the minimum packages are P1 and P2; the reserve price for P1 is set to 200 and the reserve price for P2 is set to 100.

    c. Bidder A proposes a bid of 600 on 2 lots in the 800MHz band.

    d. Bidder B proposes a bid of 1100 on 4 lots in the 800MHz band and a second bid of 500 on 2 lots in the 800MHz band.

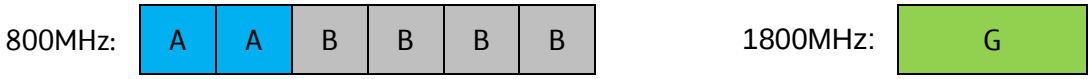
    e. Bidder C proposes a bid of 500 on 2 lots in the 800MHz band and a second bid of 350 on the single lot in the 1800MHz band.

    f. The Opted-in bidder G, does not propose bids in addition to its reserve price bids on P1 and P2.

[88] Annex 6 §7.31

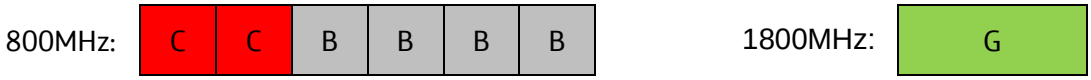
Case 1: With a Competition Constraint

199. Winning allocation:



200. The sum of all winning bids (including G's reserve price bid) is 600+1100+100=1800.

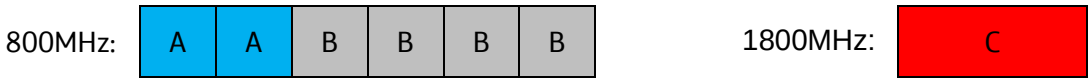
201. In order to calculate the payment of a non-Opted-in bidder, say, bidder A, its bids need to be deleted and the resulting winning allocation needs to be determined. This allocation appears as follows:



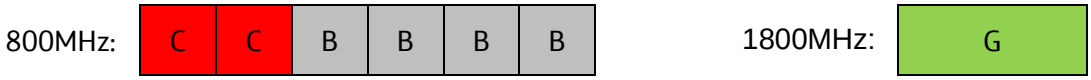
202. The sum of all winning bids in this allocation is 500+1100+100=1700. In order to determine bidder A's price, the value of all winning bids in the previous allocation, excluding bidder A's bid, needs to be subtracted from 1700—ie, bidder A's price is 1700–1200=500.

Case 2: Without a Competition Constraint

203. Winning allocation:



204. The sum of all winning bids is 600+1100+350=2,050, and the sum of all winning bids excluding bidder A's bid is 1450. If bidder A's bid is deleted, the winning allocation is the same as before:



205. The sum of all winning bids in this allocation is 500+1100+100=1700, and A's price is 1700–1450=250.

206. In this example, the Competition Constraint doubles bidder A's price (from 250 to 500), because bidder A crowds out bidder C if bidder G is an Opted-in bidder, whereas it would crowd out bidder G without the guarantee.

207. This example shows that the Competition Constraint may have the effect that the prices paid by non-Opted-in bidders are larger than the opportunity costs that their winning bids impose on other bidders. In fact, the prices of non-Opted-in bidders may be equal to the opportunity costs of their own winning bid plus the cost that the Competition Constraint imposes on other bidders. This second effect is equal to the loss in efficiency caused by the Competition Constraint, ie the pricing rule may require non-Opted-in bidders, rather than Opted-in bidders, to compensate for this efficiency loss. In this example, the Competition Constraint has the effect that the winning allocation assigns the 1800MHz lot to bidder G. As a result, bidder C's bid on this lot is crowded out and the overall value of the winning allocation is reduced by the difference between the value of these two bids (350–100=250).

Instead of requiring bidder G to pay for this efficiency loss caused by the Competition Constraint, the pricing rule raises the prices of bidders A and B by the value of this difference.

208. This example shows that the Competition Constraint may require several non-Opted-in bidders (such as bidders A and B) to subsidise the spectrum obtained by an Opted-in bidder. The Competition Constraint therefore leads to a duplication of subsidies, while at the same time it reduces the sum of winning bids (ie, the efficiency of the auction). In this example, the Competition Constraint reduces the sum of winning bids by 250 but increases Ofcom's total revenues by 500.

209. We accept that this effect does not hold in all cases, but we do not believe that it is proportionate to expose bidders to this risk as they have no means of controlling it.

The distortion increases the larger the reservation

210. The following example demonstrates that there are circumstances in which the negative effect of the Competition Constraint on prices paid by non-Opted-in bidders increases with the size of the spectrum reservation.

211. Moreover, the example shows that the spectrum reservation may have a negative effect on the overall efficiency of the auction. Without a spectrum reservation, the 'value' of the winning allocation in the example is equal to 2,350. If a Competition Constraint with minimum packages P1 and P2 is introduced, this value decreases to 2,100, and if the size of the minimum packages is increased (to include 2x10MHz in the 2.6GHz band), the value of the winning allocation reduces to 2,050.

Assumptions

212. The following assumptions are used in this example:

    a. Four bidders, A, B, C and G (G is the Opted-in bidder).

    b. In this example there are 6 homogeneous lots in the 2.6GHz band, 6 homogeneous lots in the 800MHz band, and one single lot in the 1800MHz band.

    c. Two alternative sets of minimum packages are considered:

        i. minimum packages P1 and P2 (Competition Constraint 1)

        Package P1 consists of two lots in the 800MHz band, and package P2 consists of the single lot in the 1800MHz band. The reserve price for P1 is set to 200, and the reserve price for P2 is set to 100.

        ii. minimum packages Q1 and Q2 (Competition Constraint 2)

        Package Q1 consists of P1 plus one lot in the 2.6GHz band, and package Q2 consists of P2 plus one lot in the 2.6GHz band. The reserve price for Q1 is set to 250, and the reserve price for Q2 is set to 150.

213. The following table summarises the bids proposed by the four bidders. These bids are held constant in the different scenarios considered below. Note that the Opted-in bidder, G, proposes reserve-price bids on all four minimum packages (ie, P1, P2, Q1 and Q2).

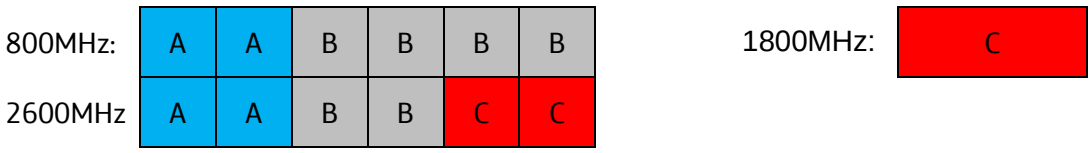
Figure 16 : Bids summary

Bidder	Bid	800MHz	1800MHz	2.6GHz	Bid amount
A	A1	2		2	700
B	B1	4		2	1200
	B2	2		2	600
C	C1	2		2	600
	C2		1	2	450
	C3			2	100
G	P1	2			200
	P2		1		100
	Q1	2		1	250
	Q2		1	1	150

214. The following cases illustrate how the price of non-Opted-in bidder A changes as a result of different assumptions on the amount of spectrum reserved for bidder G.

Case 1: Without a Competition Constraint

215. Winning allocation:



216. The sum of all winning bids is 700+1200+450=2350, and the sum of all winning bids excluding bidder A's bid is 1650. If bidder A's bid is deleted, the winning allocation is:

217. The sum of all winning bids in this allocation is 600+1200+150=1950, and bidder A's price is 1950-1650=300.

Case 2: With Competition Constraint 1

218. Winning allocation:

800MHz:	A	A	B	B	B	B	1800MHz:	G
2600MHz	A	A	B	B	C	C		

219. The sum of all winning bids is 700+1200+100+100=2100, and the sum of all winning bids excluding bidder A's bid is 1400. If bidder A's bid is deleted, the winning allocation is the same as in case 1. It follows that bidder A's price is 1950-1400=550

220. Bidder A's price has increased by 250 because, under Competition Constraint 1, bidder A crowds out bidder C's bid in the 1800MHz band rather than the lower bid of bidder G in this band.

Case 3: With Competition Constraint 2

221. Winning allocation:

800MHz:	A	A	B	B	B	B	1800MHz:	G
2600MHz:	A	A	B	B	G			

222. The sum of all winning bids is 700+1200+150=2050, and the sum of all winning bids excluding bidder A's bid is 1350. If bidder A's bid is deleted, the winning allocation is the same as in case 1. It follows that bidder A's price is 1950-1350=600.

223. Bidder A's price has increased by 50 compared to case 2 because, under Competition Constraint 2, bidder A crowds out bidder C's bid in the 2.6GHz band rather than the bid of bidder G in this band.

Conclusion on pricing effects

224. Our analysis above shows that other bidders can, essentially, end up subsidising the Opted-in bidder. Further, the outcome is less valuable for the winners leading to a lower level of efficiency than the counterfactual auction.

225. At the very least, we would expect Ofcom to ensure that a "targeted remedy" does not adversely affect the prices of other bidders. The easiest way to do this is minimise any reservations.

Ofcom must secure value for money on disposal of a public asset

226. In its draft Annual Plan for 2012-13[89] Ofcom describes the 800MHz/2600MHz auction as part of a programme of "*Promoting the efficient use of public assets*".

227. We have demonstrated (and Ofcom accepts[90]) that, should Hutchison win 2x10MHz 800MHz, it will pay a value less than the market price for that spectrum.

228. Taxpayers have a right to expect that this public asset disposed of at below the market price will be put into productive and efficient use, rather than used as a means of inflating the profits of firms in the sector.[91]

229. Further, the competitive benefits relied on in Annex 6 Section 2 relate to the creation of a *national* infrastructure competitor. Consequently, it is not unreasonable for the taxpayer to demand that any reservation in the 800MHz band should attract an obligation to provide national coverage, such that there is no risk to the taxpayer that the otherwise inefficient assignment fails to deliver a *national* wholesale competitor.

230. We note that Ofcom relies on Hutchison's evidence to the CMS Select Committee (at §5.35) to the effect that a 96-97% coverage obligation would incur no extra costs (to them). If that is the case, then we would expect Ofcom to secure value for money for the taxpayer and ensure that Hutchison puts its windfall to commercial use, in the interests of competition and consumers.

231. Telefónica is strongly of the view that any reservation of 800MHz spectrum shall automatically be assigned the coverage obligation, securing value for money for the taxpayer.

State aid

232. Telefónica notes the rather terse response from Ofcom at §A10.194 and that Leading Counsel has confirmed Ofcom's view that its proposals do not give rise to state aid.

233. At §A12.49 Ofcom explains, in terms, how application of the Competition Constraint has an effect on opportunity costs – the basis under which prices are calculated.

234. Telefónica has also consulted Leading Counsel, confirming our view that the auction may well give rise to the granting of state aid, although we accept that the extent of any such aid will depend on the level of the likely discount from market price enjoyed by the successful bidder for the reserved spectrum.

[89] http://stakeholders.ofcom.org.uk/binaries/consultations/936793/summary/condoc.pdf §4.10
[90] Annex 6. §7.31 "this could represent a material windfall gain to the beneficiary of the measure."
[91] http://202.66.146.82/listco/hk/hutchison/annual/2010/telecom.pdf
"The full year result reflects lower amortisation and a one-time substantial benefit of €146 million (approximately HK$1,489 million) with reference to the assignment of two blocks of 5MHz of 1,800MHz spectrum".

235. We do not see how any aid would be compatible with the internal market pursuant to paragraphs (2) or (3) of Article 107 TFEU. Further, it is the Commission which has the exclusive role in determining compatibility, not Ofcom, nor its Leading Counsel.

236. [✂]

237. [✂]

238. [✂]

Review and remedies

239. In the event of a grant of aid, Telefónica has a directly effective right to seek a review and to secure a supplementary payment to the UK taxpayer from the recipient of this unjust enrichment.

240. The remedies which Telefónica may seek include:

    a. An order for the repayment of the aid, restoring the position to that prior to the grant of the aid[92]. This may be directly calculable from the bidding data, or a reasonable estimate may be made from the prices paid by non-Opted-in winners. Alternatively we will be able to infer the aid from any profit booked in Hutchison Whampoa's accounts, as seen in Italy; and

    b. If Hutchison is unwilling or unable to make such a payment to the UK taxpayer, then the reserved spectrum shall be returned to Ofcom.

Alternative approach

241. It remains open to Ofcom to amend its proposals to implement such a top-up mechanism in the auction design, in order to allow any grant of state aid and to be corrected by Ofcom itself by contractual means.

[92] See *C-390/9- Banks v Coal Authority [2001] ECR I-6117* at §75 *"…restoring the situation prior to the payment of aid which was unlawful or incompatible with the common market is a necessary requirement for preserving the effectiveness of the provisions of the Treaties concerning State aid and the national court must examine, in the light of the circumstances, whether it is possible to uphold the individuals' claims so as to help restore that previous situation…"*

8. Auction rules

The Opted-in bidder should not enjoy an unjustified information advantage

242. Ofcom proposes to inform bidders about Total Demand and Excess Demand in each Lot Category after every Primary Round. We believe that Ofcom needs to provide additional information in order to meet its stated objectives.

243. Ofcom defines the following concepts.

   a. The Provisional Winner Determination calculates the revenue maximising allocation of bids at the end of each Primary Round, taking into account all bids proposed in earlier Primary Rounds (including reserve price bids from the Opted-in bidders).

   b. Total Demand in a given Lot Category is obtained by summing for each bidder the maximum of the number of Lots "n" bid for in the current Primary Round, and the number of Lots "m" in its Provisional Winning Bid, ie Total Demand in a given Lot Category is obtained by summing *Max(n,m)* over all bidders. Note that Total Demand in a given Lot Category may differ from the number of Lots bid for in the current round in that category because Total Demand may include bids proposed in earlier rounds and reserve price bids from the Opted-in bidders. We will refer to the total number of Lots bid for in a given category as 'Aggregate Demand'. We show that Total Demand may not provide bidders with sufficient information to ensure an efficient outcome of the Primary Rounds, and that additional information on Aggregate Demand is required.

   c. Excess Demand in a given Lot Category is defined as Total Demand minus the number of available Lots in that Lot Category, ie Excess Demand follows directly from Total Demand (there is no need for Ofcom to provide this information directly).

   d. The Closing Condition is met if there is no Lot Category with Excess Demand.

<u>Providing bidders with information on Total Demand is not sufficient</u>

244. At§7.11 of the Consultation, Ofcom states that giving bidders incentives to update their preferences *"as they receive information on likely values from the open rounds of the auction"* is a general principle underlying its auction design. We show that the information provided by Ofcom at the end of each Primary Round is not sufficient to meet this objective.

245. We welcome the use of the Total Demand metric as a way of providing bidders with information on Aggregate Demand should the Competition Constraint be used. However, this metric alone does not provide bidders with sufficient information to ensure an efficient outcome of the Primary Rounds. Examples 1 and 2 below show that there are circumstances in which the Total Demand metric conveys only very limited information on likely prices in certain Lot Categories or on whether other bidders have reduced their demand. The examples show that a problem of this type may arise if Total Demand is based on bids

proposed in previous rounds (example 1) or if Total Demand is based on reserve price bids proposed by Opted-in bidders (example 2). In addition, example 2 highlights a systematic informational asymmetry between Opted-in bidders and non-Opted-in bidders.

246. The examples show that Ofcom can improve price and demand discovery during the Primary Rounds by providing bidders with information on the number of Lots bid for in each Lot Category at the end of each round (in addition to information on Total Demand). We therefore believe strongly that, in addition to the proposals made in §A11.75 of the Consultation, Ofcom should provide bidders with information on Aggregate Demand in each Lot Category after each round.

Example 1: Limited information on Aggregate Demand

247. Assume that there are 6 homogeneous Lots in the 800MHz band, 1 Lot in the 1.8GHz band and 12 homogeneous Lots in the 2.6GHz band. There are 4 bidders: A, B, C and D. In the current Primary Round r, bidders express the following demand:

a. bidders A, B and C: 2 lots of 800MHz and 5 lots of 2.6GHz

b. bidder D: 2 lots of 800MHz and 2 lots of 2.6GHz

248. In the following Primary Round r+1, bidder D shades its 800MHz demand to zero and bidders A, B and C each express the same level of demand as they did in the previous round r. Moreover, it is assumed that demand in all categories remains unchanged for a few consecutive rounds.

249. In round r+1 and the rounds that follow, the bid proposed by bidder D in round r will likely be part of the Provisional Winner Determination, despite the fact that prices in the 800MHz band are constantly rising (rising prices lead to a reduction in the bid amount of bidder D's bid relative to the bids of the other bidders). This is due to the fact that allocations which include the three bids of bidders A, B and C are not feasible because these bids cannot be accommodated within the 2.6GHz band. It follows that Total Demand in the 800MHz band is not affected by bidder D's demand reduction.[93] Bidders A, B and C would therefore not be able to update their valuations following D's demand reduction.

250. If bidders A, B and C keep demand in the 800MHz band constant, their bids eventually determine the winning allocation as prices continue to rise. The base prices of bidders A, B and C will be based on the bid amount of the package crowded out by their bids, ie on bidder D's bid–evaluated at prices prevailing in round r. [94] Since Total Demand does not provide information on when bidder D reduced its demand, bidders A, B and C would face a significant amount of uncertainty about their likely prices. Thus, Ofcom needs to provide bidders with information on Aggregate Demand at the end of each Primary Round in order to meet its objective of ensuring price and demand discovery.

[93] Total Demand in the 800MHz band in rounds r+1,r+2,.. is equal to the total demand from bidders A, B and C, plus the maximum of bidder D's current demand and its demand in round r, ie Total Demand=6+Max(0,2)=8.
[94] This assumes that there are no supplementary bids.

Example 2: Opted-in bidders may have an informational advantage

251. Assume that there are 6 homogeneous lots in the 800MHz band, 1 lot in the 1.8GHz band and that the 2.6GHz band is not in the auction or supply/demand are equal in that Lot Category and there is no facility to switch. There are 4 bidders: A, B, C and R. Bidder R is the reserved spectrum winner, ie the Competition Constraint applies in this example, and the spectrum reservation is either 2 lots in the 800MHz band or the single lot in the 1.8GHz band. In the current Primary Round r, bidders express the following demand

    a. bidder A: 4 lots of 800MHz

    b. bidders B and R: 2 lots of 800MHz

    c. bidder C: 1 lot of 1.8GHz

252. In the following Primary Round r+1, bidder R shades its 800MHz demand to zero and bidders A, B and C each express the same level of demand as in the previous round r. Moreover, it is assumed that demand in all categories remains unchanged for a few consecutive rounds.

253. Provided that bidder C's bid is not too small,[95] the Provisional Winner Determination at the end of round r+1 assigns two 800MHz lots to bidder R. As a result, Total Demand in round r+1 (and in the following rounds) does not reflect bidder R's demand reduction. While the non-reserved bidders A, B and C would not be able to infer the level of Aggregate Demand in the 800MHz band, the reserved bidder R would be able to derive Aggregate Demand from the information available to him at the end of the round (ie, Total Demand minus its spectrum reservation in the 800MHz band). Moreover, uncertainty about the round in which the Opted-in bidder reduced its demand (or about whether the Opted-in bidder reduced its demand at all) leads to uncertainty about the bid amount of the Opted-in bidder's bid for its reserved package. Non-Opted-in bidders may therefore face significant uncertainty about whether they are likely to win a package in this band and about their likely prices. Opted-in bidders, on the other hand, would not face such uncertainty.

254. The example illustrates that, under Ofcom's current proposal, the Competition Constraint may affect price revelation for non-reserved bidders and puts them at a systematic informational disadvantage with respect to the Opted-in bidder. If bidder C were to move its demand from the 1.8GHz band to the 800MHz band, it would face significant uncertainty about the likelihood of winning a 800MHz package and about its likely price. If, on the other hand, bidder C instead of bidder R were the reserved bidder in this example, the Total Demand metric would have revealed the demand reduction of bidder R and bidder C would be able to form a much better expectation of its likely price.

255. This informational asymmetry would arise under all of the spectrum packaging proposals of section 6 of the Consultation. For example, in case there are two Lot Categories, A1 and A2, in the 800MHz band and all or part of the spectrum in A2 is reserved for bidder R, non-

[95] If bidder C's bid is small and/or if bidder C proposed a bid on the 800MHz band in one of the earlier rounds, it is possible that the Provisional Winner Determination assigns the single lot in the 1.8GHz band to bidder R.

reserved bidders currently bidding on A1 may face significant uncertainty about the likely price they would have to pay when switching from A1 to A2. The same logic applies in case the spectrum reservation is in A1 or in case both A1 and A2 contain reserved spectrum.

256. This informational asymmetry can be resolved by providing bidders with information on the total number of lots bid for in each Lot Category. In this case, non-reserved bidders would be informed about reductions in the demand of reserved bidders and would therefore obtain the same information on Aggregate Demand as the reserved bidders.

Ofcom needs to provide bidders with additional information to enable them to secure their FPP

257. We welcome the proposed Final Price Cap and the increased certainty it provides to bidders in relation to securing their Final Primary Package (FPP). However, Ofcom does not provide bidders with all the information necessary to assess the risk of losing their FPP during the Supplementary Bidding Round (SBR) and to determine which SBR bids would be required in order to secure their FPP. Examples 3 and 4 below show that Ofcom needs to provide bidders with information on Aggregate Demand and on the location of the Opted-in bidders' FPPs.

258. The proposed Competition Credit makes it generally harder for bidders to secure their FPP, even under the proposed Final Price Cap. If the size of the spectrum reservation is large and there is only a small number of Opted-in bidders in the auction, these bidders would have a reduced incentive to compete with other bidders in the auction. In this case, Opted-in bidders would be more likely to remain inactive in order to secure one of the large reserved packages at the reserve price. This point is addressed in example 4 below.

259. In case Total Demand is smaller than supply in at least one Lot Category, the allocation in the Final Primary Round is highly likely to change during the SBR and bidders would need to raise their FPPs accordingly. Bidders would be able to infer from Total Demand at the end of this round that this is the case. However, there are circumstances in which information on Total Demand would not allow bidders to infer whether there is a significant risk of losing their FPP during the SBR as a result of a small level of Aggregate Demand in one Lot Category, as shown in the following example.

Example 3: Ambiguity about the level of Aggregate Demand

260. Assume that there are 6 homogeneous lots in the 800MHz band, 1 lot in the 1.8GHz band and that the 2.6GHz band is not in the auction. There are 4 bidders: A, B, C and D. In the penultimate Primary Round T-1, bidders express the following demand

a. bidders A and C: 2 lots of 800MHz

b. bidder B: 3 lots of 800MHz

c. bidder D: 1 lot of 1.8GHz

261. It is assumed that bidder B reduces its demand to zero in the Final Primary Round T.

262. In case bidder D expressed demand for 2 lots of 800MHz in one of the earlier Primary Rounds, the Provisional Winner Determination algorithm in round T may assign these two lots to bidder D. In this case, Total Demand in the 800MHz band in round T would be equal to 6, as shown in the following table.

	Bidder A	Bidder B	Bidder C	Bidder D	
Actual demand in T	2	0	2	0	
Provisional Winner Determination in T	2	0	2	2	
Maximum	**2**	**0**	**2**	**2**	**Sum: 6**

263. Moreover, Total Demand in the 1.8GHz band in round T is equal to the maximum of bidder D's actual demand and its share of the allocation determined by the Provisional Winner Determination, ie *Max(1,0)*=1. It follows that Total Demand in both the 800MHz band and the 1.8GHz band is equal to supply. Bidders would only be informed that Total Demand in the 800MHz band decreased by 1 lot and they would be unable to distinguish the situation described above from a more straightforward one in which the reduction in Total Demand is due to a simple demand reduction of 1 lot by one of bidders A, B or C. However, these two situations are very different from each other because in the latter case the allocation in the Final Primary Round is much less likely to change during the SBR (since Aggregate Demand is equal to supply in each Lot Category–once the Competition Constraint has been accounted for). In our view, Ofcom needs to reduce this uncertainty by providing bidders with information on Aggregate Demand.

264. In case Total Demand in round T is equal to supply in all Lot Categories, bidders could use information on Total Demand from earlier Primary Rounds to guess the level of Aggregate Demand in round T. Since Opted-in bidders are generally better informed about demand during the Primary Rounds (as shown in the example above), it is likely that Opted-in bidders find it easier to infer the level of Aggregate Demand on the Final Primary Round. Ofcom can remove this informational asymmetry by providing bidders with information on Aggregate Demand in the Final Primary Round.

265. The following example shows that even in case Aggregate Demand is equal to supply in each Lot Category (once the Competition Constraint has been accounted for), bidders may lose their FPP if they fail to provide a sufficiently large SBR bid on their FPP. This highlights the importance of providing bidders with sufficient information in order to allow them to determine SBR bids that are consistent with their objectives.

Example 4: FPPs are not guaranteed if Access Demand equals supply in all Lot Categories

266. Assume that there are 6 homogeneous Lots in the 800MHz band, 1 Lot in the 1.8GHz band and 12 homogeneous Lots in the 2.6GHz band. There are 4 bidders: A, B, C and R. Bidder R is the reserved spectrum winner, ie the Competition Constraint applies in this example, and the spectrum reservation is either 2 lots in the 800MHz band or the single lot in the 1.8GHz band. In the Final Primary Round T, bidders express demand on the following packages:

a. bidders A and B: 2 lots of 800MHz and 4 lots of 2.6GHz

b. bidder C: 1 lot of 1.8GHz and 4 lots of 2.6GHz

c. bidder R: zero-demand

267. Assume that the Provisional Winner Determination in round T assigns 2 lots in the 800MHz band to bidder R. This example shows that, although Aggregate Demand plus the reserved spectrum assigned to Opted-in bidders is equal to supply in each Lot Category in the Final Primary Round, bidders nevertheless face the risk of losing their FPP during the SBR.

268. If, for example, bidder B proposes a sufficiently large supplementary bid on 4 lots in the 800MHz band bidder C may lose its FPP and end up empty-handed. According to the Final Price Cap, the bid amount of this bid of bidder B can not exceed the amount by which bidder B raises its FPP during the SBR plus the price for two 800MHz lots at prices prevailing in the Final Primary Round.[96] Assume that B raises its supplementary bid up to this cap and that the round price in the Final Primary Round in the 800MHz and the 1.8GHz bands are equal to 500 and 350, respectively. Moreover, it is assumed that the reserve prices for the 2 lots in the 800MHz band and the single lot in the 1.8GHz band are 200 and 250, respectively. Under these assumptions, the winning allocation at the end of the Principal Stage assigns 4 lots of the 800MHz band to bidder B and it assigns the 1.8GHz band to bidder R (provided that supplementary bids proposed by other bidders are not too large), ie bidder C is no longer part of the winning allocation.

269. In order to be certain to win its FPP, bidder C would have to raise the bid on its FPP by at least 500 [97] during the SBR. This example shows that bidders could face a significant risk of losing their FPP during the SBR, even if Aggregate Demand is equal to supply in each Lot Category (once the Competition Constraint has been accounted for), and that the amount by which bidders would have to raise their FPPs can be substantial. The least Ofcom can do to reduce this risk is provide bidders with sufficient information to determine the amount by which FPPs would have to be raised, ie information on Aggregate Demand and, ideally, the

[96] For simplicity, it is assumed that supplementary bids by all bidders express the same level of demand for lots in the 2.6GHz band than their bids in the Final Primary Round.

[97] Bidder C has to ensure that the value of the alternative allocation which assigns the 1.8GHz band to bidder R has a lower valuation than the allocation prevailing the Final Primary Round. This condition is satisfied if bidder C raises its FPP by (2*500-2*200)-(350-250)=500.

location of the reserved minimum package(s) assigned to Opted-in bidders within the allocation in the Final Primary Round.

270. Moreover, Ofcom needs to ensure that the size of the spectrum reservation is kept to its minimum in order to minimise the risk that non-Opted-in bidders lose their FPP during the SBR. The smaller the spectrum reservation, the larger the incentive for Opted-in bidders to remain active during the auction. This reduces the risk of a very low bid from one of the Opted-in bidders on one of their reserved packages and makes it therefore easier for non-Opted-in bidders to secure their FPP.

271. At §A11.119 Ofcom suggests that:

> *"a bidder can ensure it wins its Final Primary Package provided it makes a sufficiently high Supplementary Bid for this Package (and does not raise the amount of previous Primary Bids for other packages too much)…."*

272. Ofcom concludes that paragraph by saying:

> *"We believe this is desirable as it provides greater certainty for bidders and improves price discovery."*

273. We agree with Ofcom that this sort of effect is very beneficial to bidders and price discovery. Ofcom's auction design, whilst more efficient, is extremely complex when compared to other auctions it has conducted, or have been conducted elsewhere in Europe. We feel it is important that Ofcom does everything it can to simplify this auction in order to increase participation and efficiency. Indeed ComReg, which is running a very similar auction using the same advisors, has gone further than just provide bidders with the information we propose, they will provide a software tool to allow bidders to clearly see the bids they need to make to secure their FPP[98]. Such an approach would give bidders more confidence that their efforts in the Primary Round would not be subsequently undone in the SBR.

800MHz packaging

274. We welcome Ofcom's clarification that it does not propose to set differential reserve prices for spectrum reserved for Opted-in Bidders, from other spectrum in the same band. However, Telefónica is unclear from the Consultation precisely which part of the 800MHz spectrum Ofcom proposes to reserve for Hutchison.

275. There are a number of different locations for the reservation, some of which would incur the coverage obligation, some of which do not. Given our strong view that any winning 800MHz reservation should be encumbered with the coverage obligation, by default, it follows that Ofcom's 800MHz packaging scheme could deal with both the allocation of the reservation and the coverage obligation in one go.

[98] See ComReg Document 11/60 p.159 §3.3.3

276. In the Consultation Ofcom proposes a new packaging approach that allows the assignment of the coverage obligation to a bidder that has acquired 2x10MHz. Two options are presented:

    a. Option 1 – which fixes the coverage obligation within the spectrum the furthest from DTT, Lots 5 & 6;

    b. Option 2 – which allows the final assignment of the 2x10MHz block with the coverage obligation somewhere within Lots 4 & 6, whilst maintaining the Contiguity Rule for both the acquirer of A3 and other bidders.

277. The auction is already very complex and therefore in order to make the process tractable and to enhance price discovery, we are supportive of Option 1, a fixed assignment.

278. We believe this approach can accommodate the packaging scheme we set out above, whereby:

    a. The coverage obligation Lot is a separate class of Lot A2, consisting of blocks 5&6 in the 800MHz band;

    b. The coverage obligation Lot A2 is the one assigned to the Opted-in Bidder; and

    c. There are common reserve prices across all Lots in class A.

✂

279. [✂]

280. [✂]

281. [✂]

✂

282. [✂]

283. [✂]

284. [✂]

285. [✂]

9. Other matters

Coverage obligation – inclusion of MIP commitment

286. We do not believe that Ofcom should include a MIP commitment in the coverage obligation. It is far from clear how the MIP process will work and, in our view, an open-ended commitment could lead to considerable valuation uncertainty for bidders. Further, MIP may need to seek state aid clearance and we would not wish that process to delay the auction.

Addendum published 17th February 2012

287. On 17th February 2012 Ofcom published an addendum to the Consultation, covering possible spectrum reservation options, should EE decide to divest its 2x15MHz 1800MHz by way of a private sale to a party other than Telefónica or Vodafone. Essentially Ofcom presents two choices:

    a. Case 1 : Just reserve the residual components of portfolios 5 and 6 for Opted-in bidders, ie 2x10MHz 800MHz or 2x10MHz 2600MHz; or

    b. Case 2 : Add further complexity and have two classes of opt-in bidder:

        i. The opt-in bidder with the 1800MHz divestment; and

        ii. Other opt-in bidders without the 1800MHz divestment.

288. Telefónica responds to these proposals without prejudice to our position above on four vs three players and on the case for a smaller reservation for the "fourth player". In addition, we make these comments on the presumption that the Competition Constraint means that only <u>one</u> Opted-in bidder is guaranteed to arise at the end of the primary rounds.

<u>Under P1/P2 reservations, Hutchison acquires the divestment before the auction</u>

289. It is clear from the rest of our response that, should Ofcom undertake its analysis properly and arrive at a proportionate decision on remedies (should they be justified at all), then this issue goes away if Hutchison is the acquirer of the divestment spectrum.

290. The resultant auction would be simplified, with no need for reservations, no distortions of activity, no discrimination or risk of state aid arising.

<u>Under P1/P2 reservations, a party other than Telefónica, Vodafone or Hutchison acquires the divestment</u>

291. Ofcom's own analysis already identifies the most appropriate approach, specifically its discussion of the benefits or otherwise of providing the same reservation for new entrants as Hutchison[99] at Annex 6 §8.52:

[99] Annex 6 §§8.49-8.54

"to promote at least four credible national wholesalers, it may be excessive to reserve more spectrum than the minimum necessary to be credible when combined with H3G's 2x15MHz of 2.1GHz spectrum. It may be possible for a new entrant to buy the spectrum in one of the portfolios and to launch a successful LTE service soon after the auction. In the near term this could lead to stronger competition, as there would be five competitors. In the longer term, H3G and the new entrant may not each have sufficient spectrum to be credible. However, if necessary at that point, it might be possible for the two spectrum holdings to be brought together in some way, by network sharing, a trade or a merger, while still retaining at least four credible national wholesalers...."

292. We agree with this assessment. Even with just 2x15MHz 1800MHz the "fifth player" has a direct route to LTE, as much capacity as Hutchison today and it can still bid in an open auction for further capacity – which is, demonstrably, not as prone to strategic behaviour as Ofcom's assertions suggest.

293. Furthermore, if the DoJ's assessment is correct, then the number of competitors is a more important factor than their individual spectrum holdings (which is distinct from Ofcom's case that both are as relevant). This implies that "three plus two" would provide more intense competition than exists in today's market (the test set by Ofcom to justify intervention), irrespective of the outcome of the auction process. There would be no case for further intervention.

<u>Under Ofcom's proposed reservations, the choice between Case 1 and Case 2</u>

294. It is our strong view that Case 1 is the only possible conclusion, on the same two grounds set out above:

    a. The position put by Ofcom at Annex 6 §8.52 and spelled out above, ie that Ofcom need do no more than ensure that a certain portfolio of spectrum does not fall into the hands of Telefónica, EE or Vodafone – it does not need to be prescriptive as to the distribution amongst further players, the market will sort that out in the most efficient way; and

    b. The DoJ point above, again there would be a "four" or a "three plus two" outcome guaranteed under Case 1.

Technical points

295. Unlike many recent consultations, Ofcom does not predicate its proposals on a specific technical characteristic of one type of spectrum or another. However, the likely performance and utility of some spectrum or some technologies is used to discriminate between different classes of bidders. Specifically:

    a. 1800MHz as a supply-side substitute for 800MHz;

    b. HSPA+ as a competing technology (in whatever band) with LTE; and

c. The likelihood that LTE900 is a viable alternative to LTE1800 or LTE800.

296. We have a number of observations to make at a technical level, distinct from the points we have made elsewhere about the inconsistent regulatory discourse on some of these points made by EE and Hutchison.

Refarming LTE900

297. Ofcom suggests that there would be a faster move to LTE900 if this performance difference between HSPA+ and LTE persists or gets worse. However, Ofcom fails to take account of the ecosystem point, if other countries do not have demand for LTE900 because of fragmented supply amongst operators then even if there was a theoretical performance advantage, the device portfolio would not be mature to support LTE900.

298. Ofcom tries to suggest that Telefónica could refarm HSPA900 directly to LTE900[100]. We are unclear how this assertion can fit in with the other limbs of Ofcom's case, because:

a. Presumably Telefónica would need to implement HSPA+DC to be competitive with LTE800, leaving 2x7.4MHz of spectrum for GSM.

b. It is Ofcom's own case[101] that 2x5MHz LTE provides little performance improvement, so we must assume that at Telefónica must be able to refarm 2x10MHz LTE900. This would imply a post-refarm configuration of either:

i. 2x10MHz LTE, 2x5MHz HSPA and 2x2.4MHz GSM – something that would drastically reduce the experience of HSPA users and probably make GSM cease to function; or

ii. 2x10MHz LTE, 2x7.4MHz GSM and no HSPA.

299. This must make the date at which such a refarm could take place either

i. When GSM is due to be switched off; or

ii. When all HSPA devices are also LTE900 devices.

300. In either case this may not be for another decade, during which time Ofcom itself accepts that HSPA will no longer be competitive with LTE[102].

301. Ofcom's assessment of whether Telefónica and Vodafone need to acquire 800MHz relates to the likelihood that its regulatory decision is correct, rather than being a full assessment of whether relying on HSPA900/LTE900 is a viable option for bidders in reality. It is not sufficient to arrive at an answer that "it might be a viable alternative", in order to draw a distinction between the position of Hutchison and that of Telefónica/Vodafone. Telefónica or Vodafone do not have the luxury of a "might be" bid in the auction. They have to make a binary choice. As we state above, a better way to deal with this issue is to deal with the

[100] §§A8.31-8.36.
[101] Annex 6 §3.92
[102] See Annex 6 §4.2 et seq

issue systematically and determine whether Ofcom's approach "works" in either circumstance.

LTE900 and carrier aggregation

302. Ofcom attempts to side-step the standardisation restrictions with LTE900 at Annex 6 §4.42, whereby it suggests that the lack of a carrier standardised above 2x10MHz may not be relevant given the progress of carrier aggregation.

303. The next round of standardisation for carrier aggregation will only include carrier aggregation between 800MHz and 900MHz, which does not help Ofcom in its assertion as it is relying on CA as a way of suggesting the Telefónica will have a low frequency option without 800MHz in its spectrum portfolio.

10. Annual Licence Fees

Calculation of ALF must be consistent with Community law

304. We note that Ofcom will be providing further details on how any proposals regarding ALF are compatible with Community Law, as stated at §8.21 of the Consultation. We agree with Vodafone's assessment in its response to the March consultation[103] that the Government's Direction to Ofcom is subservient to the Common Regulatory Framework. In particular Ofcom is bound by Article 13 of the Authorisation Directive:

> *"Member States may allow the relevant authority to impose fees for the rights of use for radio frequencies.....which reflect the need to ensure the optimal use of these resources.....Member states shall ensure that such fees shall be objectively justified, transparent, non-discriminatory and proportionate in relation to their intended purpose and shall take into account the objectives in Article 8 of the [Framework Directive]."*

305. Ofcom cannot simply point to the Direction as the objective justification for the measure proposed, that would be circular. The Direction is subservient to Community Law and it is there that Ofcom must find its inspiration.

306. The Annual Licence Fee proposal must be set in order to ensure optimal use of resources (sic) or encourage efficient use of spectrum[104].

307. So, Ofcom's first task in its consultation on ALF must be to determine whether the Secretary of State's Direction is consistent with Community Law, ie

    a. Is the requirement to set licence fees to the "full market value" consistent with ensuring optimal use of spectrum?; and

    b. Are the sums bid in the Combined Award of any relevance to the objective justification – to secure the optimal use of limited resources consistent with Article 13 AuD?

308. As Vodafone highlights at §185 of its response to the March consultation, the Recitals to the Authorisation Directive constrain the ability to set punitive fees as *"Such fees should not hinder the development of innovative services and competition in the market".*

309. We look forward to reviewing Ofcom's legal analysis in more detail.

Breaking the mechanical link and taking a wide range of factors into account

310. We welcome Ofcom's clarification that there will not be a mechanistic link between the auction bids and the calculation of ALF. We believe it is much more prudent for Ofcom to take a range of factors into account when determining ALF. In particular, we expect Ofcom

[103] March 2011 consultation §146 et seq
[104] Framework Directive Article 8 §2(d)

to be suitably objective in its assessment of and weighting ascribed to various indicators, whether they indicate a high number or a low number.

311. By breaking the mechanistic link, we agree that Ofcom's ALF proposals no longer give rise to state aid[105].

Ofcom accepts that 900MHz is an inferior LTE substitute to 800MHz and 1800MHz

312. In this consultation Ofcom identifies a number of factors that would lead to a conclusion that, at least with respect to LTE, 900MHz is a significantly inferior substitute to 800MHz and 1800MHz. Specifically:

    a. Channel size and fragmentation : the 900MHz band is currently highly fragmented. The maximum channel size available to Telefónica is currently 2x7.6MHz, ie insufficient to launch a 2x10MHz service. Telefónica would be reliant on the co-operation of Vodafone (a competitor) and / or Ofcom in order to defragment the band. There are therefore substantial risks of hold-up. The logic of Ofcom's position regarding the value of strategic behaviour would clearly apply in this situation also. Ofcom provides no certainty that a 2x10MHz carrier is an independently realisable option.

    b. Standardisation :

        i. Channel bandwidth : Ofcom accepts at §A10.58 that there is no current or expected standardisation of LTE900 to anything other than a 2x10MHz carrier.

        ii. LTE-A carrier aggregation : In order to overcome the fragmentation of the band and/or the lack of standardisation, Telefónica would be reliant on LTE-Advanced, as Ofcom posits at §A10.59. Telefónica would point out that LTE-A CA (Carrier Aggregation) requires standardisation. It would be subject to the same prioritisation problem that bedevils the whole LTE900 ecosystem.

    c. Lack of an LTE900 ecosystem and uncertainty as to when it will emerge (if at all)[106]. Ofcom accepts at §A8.32 that "there is currently a paucity of LTE900 devices, with few public announcement on LTE900 handsets."

    d. Uncertainty over any requirement to protect neighbouring users, ie Network Rail, and the impact this has on the usability of parts of the band.

313. All of these factors will have substantially reduce the value of 900MHz cf. 800MHz, not least because they all suggest that the ability to create value from LTE in this spectrum is in the distant future, the NPV of future value is so much lower than, for example, the NPV of value of 1800MHz which has an established ecosystem, is not fragmented and has no interference management issues. 1800MHz can be exploited for LTE now, 900MHz cannot.

[105] §§A13.80-A13.82

[106] §A8.31 *"The move to LTE900 is longer term and there is considerable uncertainty over when it might be profitable."*

The auction will tell Ofcom precisely nothing about the value of 900MHz for GSM/UMTS in the intervening years between now and when (if) any LTE900 ecosystem emerges.

314. In order to assess market value, Ofcom would need to model the transition of value within the market (as opposed to subscribers), from 2G to 3G to 4G. We believe that this challenge may be intractable, or have a level of complexity that places it on a par with LRIC+.

Strategic bidding does not constitute "market value"

315. The underlying hypothesis behind Ofcom's proposed reservations is that part of the valuations expressed in the Combined Award (or other EU auctions) will relate to strategic value. This is the value gained from denying an input to a competitor.

316. When we consider the definition for "market value", set out at §A13.1 in the Consultation, we must consider whether "strategic value" would be expressed in a "well functioning spectrum market", ie if auction values are polluted by "strategic value", are they relevant at all to a functioning market for spectrum.

317. It is important to consider two types of purchaser:

    a. A purchaser (A) which would be foreclosed from the market without the input; and

    b. A purchaser (B) which wishes to increase its spectrum portfolio, at the margin, but is not foreclosed from being an effective competitor without the input.

318. The logic of Ofcom's argument about strategic valuation, to which it will need to be consistent when it comes to consider inputs to the calculation of ALF, is that a transaction with Purchaser A would not take place. The "strategic value" to the seller is too great, by Ofcom's own logic, to make this transaction worthwhile. In a "*well functioning market, such that supply equals demand*", the seller would choose to realise a lower price, by selling to Purchaser B in order to retain the strategic value of the spectrum.

319. This also suggests to us that, to the extent that auction valuations are relevant, they are only relevant if they express intrinsic valuations, rather than strategic valuations. It is unclear to us how Ofcom will divine this.

The Additional Spectrum Methodology may be limited in its relevance

320. At Annex 13 Ofcom outlines the ASM, a theoretical methodology for determining what prices might have been if existing spectrum had been included in the Combined Award.

321. There appear to be a number of limitations to this approach, which in our view may make any results questionable:

    a. Only the 1800MHz held by EE would have a direct substitute in the auction, all other spectrum would be near (but not perfect) substitutes as we identify above; it follows that

b. Such spectrum would, like the 1800MHz, not have been included in the 800MHz lot class or the 2600MHz lot class, it would have been sold as another lot class with its own price clock and demand function; therefore

c. An extrapolation of the 800MHz bids in themselves would appear to be of limited value.

322. Even if it were appropriate to consider 800MHz and 900MHz as direct substitutes, in order for ASM to calculate an opportunity cost there will need to be sufficient demand, in at least the first round. Assuming Telefónica places its maximum allowable two lot bid on 800MHz, demand from other bidders will need to be for twelve further lots. Given that Vodafone can bid for no more than two lots, this would require other bidders to have placed bids for ten further lots. The higher Ofcom sets the reserve prices, the less participation there will be in the auction and the greater the likelihood that bids for marginal blocks of spectrum will be unprofitable[107].

Review if circumstances change

323. In our response to the March consultation we objected to the suggestion that Ofcom would not review ALF, especially in light of deteriorating market profitability. We would welcome further clarity on the circumstances that would lead Ofcom to review ALF.

Next steps

324. We look forward to Ofcom's formal consultation on ALF in 2013 and we will take that opportunity to respond more fully on the specific proposals that Ofcom makes.

[107] See Annex 6 §5.19