



# BT's response to Ofcom's Call for Inputs on the Review of the wholesale broadband access markets.

7 January 2012

**NON CONFIDENTIAL VERSION**

**Comments should be sent to:**

Neena Rupani, BT Wholesale Regulatory Affairs via e-mail at [neena.rupani@bt.com](mailto:neena.rupani@bt.com)

## Executive Summary

### **The competitive landscape and regulation in wholesale broadband access**

Broadband has transformed the way we live in recent years – at home, at work and on the move. A key factor in creating the vibrant broadband sector which the UK enjoys today has been the practical approach to the competitive environment adopted by Ofcom in the past to ensure that broadband providers have the opportunities to invest and compete in the market place.

In the last two market reviews Ofcom has responded to this dynamic market by recognising variations in competitive conditions between different parts of the UK. In 2010 Ofcom updated the geographic definitions to better reflect where competition was already intense or expected to grow within the lifetime of the review.

Even in the relatively short time since Ofcom's 2010 market review competition has grown rapidly with LLU rollout far more extensive than anticipated. By the time Ofcom has completed this review customers in over 90% of the UK will be able to choose from at least two out of three major broadband providers as well as BT. In these areas there is intense competition because each of these providers has a powerful consumer brand and supplies broadband as part of a bundle with a combination of voice, TV or mobile.

In this review it is crucial that Ofcom recognises the realities of today's market place. This means creating a framework where regulation is targeted only where it is really needed and which encourages investment to continue to improve broadband services to consumers across the UK. We believe Ofcom should focus on two key areas in this market review:

- Updating the geographic market definitions to ensure that they are properly forward looking and that the deregulated footprint reflects the reality of today's competitive market; and
- Ensuring that the framework for wholesale pricing strikes the appropriate balance between protecting consumers whilst providing incentives to invest in next generation broadband across the UK. This is crucially important in rural areas where the case for investment is most challenging.

### **Market definition and market power**

In the last review Ofcom established the principle of deregulating some exchanges where three major providers were present – but only those where BT's market share was below 50%. We think this last criterion should now be dropped. Once large communication providers, in addition to BT, have rolled out into an exchange their impact on market share is actually a matter of timing – our experience is that market shares change rapidly after the big players have deployed in a particular exchange.

We therefore believe the time is now right for Ofcom to take a forward-looking view and to deregulate *all* exchanges where three major providers (including BT) are present (or plan to be present), irrespective of BT's market share at the outset. We will provide evidence to demonstrate that BT's market share falls rapidly once three major operators are active, proving that competition is sustainable in these circumstances and customer choice is assured from the start.

In order for Ofcom to be able to carry out this review properly and to fully reflect the state of competition in the market it is crucial that its analysis and proposals are based on accurate and up-to-date information obtained from all relevant providers, where possible supplemented and validated by public domain sources such as companies' published results and other announcements. We expect Ofcom to press hard for this information. In addition we propose that Ofcom should introduce a mechanism to update the list of 'competitive' exchange areas, to take account of any updated rollout plans during the lifetime of the forthcoming market review. This will ensure that the boundary between the geographic markets reflects the reality on the ground.

### **Price regulation**

According to Ofcom's 2012 International Communications Market Report, broadband prices in the UK compare favourably with those in the US and other major European countries and broadband availability is near universal. BT is committed to helping the UK to sustain its position as a leading digital economy and society. To this end continued investment in both the availability of broadband products at the exchange level and backhaul capacity from exchanges is essential to meeting the increasing demands of consumers of broadband services across the UK. This is especially the case in rural areas where the cost of investment is most challenging.

With the right economic and regulatory environment, we and other providers can continue to invest in broadband across the UK. In considering the appropriate level of remedies, in particular pricing regulation, Ofcom must ensure it strikes the right balance between incentivising investment and protecting consumers.

In the last market review Ofcom introduced formal charge controls for the least competitive areas – Market 1 - for the first time. They cover a relatively small proportion of the UK – just under 12%. Given TalkTalk's plans to rollout to 95% by the start of this market review period, the new Market 1, where only BT is present, will likely cover no more than 5% of UK premises. Ofcom should now seriously consider whether charge controls are a justified or proportionate remedy for such a tiny area. A more proportionate solution would be some form of safeguard cap or a return to a voluntary price ceiling, as was in place prior to the 2010 market review.

### **The 'Call for Inputs' Process**

We appreciate Ofcom's wish to prioritise aspects of its analysis in this review based on early feedback given in responses to this Call for Inputs. However Ofcom should also retain the flexibility to re-prioritise and review issues later as new evidence and arguments emerge.

This response sets out our initial views on the questions in the Call for Inputs. We look forward to contributing further ideas and evidence to help Ofcom formulate its proposals to be set out in the formal consultation process later this year.

## **Outline of this response**

We answer Ofcom's specific questions in "Call for Inputs on the review of wholesale broadband access (WBA) markets" published on 9 November 2012<sup>1</sup> in the main body of this document. The document also includes the following annexes in support of our response:

- Annex 1 sets out BT's provisional assessment of the evolution of competition in the provision of retail and wholesale broadband services since the last market review, and in particular evidence supporting our position that the share criterion of 50% where BT + 2 POs are present is not justified.
- Annex 2 is an independent report by SPC Network responding to some of the issues which were raised by Ofcom in the last WBA Consultation and Final Statement.
- Prospective Annex 3 - We had hoped to provide a further report with this response updating the econometric modelling undertaken by Professor John Nankervis during the last market review. This will examine the impact of LLU presence on retail shares and the speed of impact of an LLU operator when entering an exchange. This work has taken longer than expected and will follow shortly.

## **Responses to Ofcom's questions**

### **Market definition and market power assessment**

**Question 1** In light of our proposed approach for this review, have there been any changes since the last market review, or do you see any developments over the period of this review, which affect whether the WBA product market definition used in the last market review is still appropriate? If so please give reasons.

In the 2010 market review<sup>2</sup> Ofcom defined the wholesale WBA product market as:

*"Asymmetric broadband access and any backhaul as necessary to allow interconnection with other communications providers which provides an always on capability, allows both voice and data services to be used simultaneously and provides data at speeds greater than a dial up connection. This market includes both business and residential customers"* [paragraph 1.17]

Ofcom's definition includes cable, LLU and fibre based services to both residential and business customers but excludes narrowband internet access, symmetric broadband access, mobile fixed wireless and satellite internet access.

We broadly agree that Ofcom's product market definition is satisfactory for the purposes of the current market review. However, Ofcom's analysis will need to take into account the growing impact of mobile broadband on the nature of competition at the retail level, particularly with the advent of 4G/LTE

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<sup>1</sup> Review of the wholesale broadband access markets. Call for Inputs ('WBA Call for Inputs (November 2012)') <http://stakeholders.ofcom.org.uk/binaries/consultations/review-wholesale-broadband/summary/reviewL.pdf>

<sup>2</sup> Review of the wholesale broadband access markets. Statement on market definition, market power determinations and remedies (3 December 2010) – 'WBA Final Statement (December 2010)' <http://stakeholders.ofcom.org.uk/binaries/consultations/wba/statement/wbastatement.pdf>

services scheduled for 2013. If successful, these services could act as an increasing and effective constraint on fixed line broadband services with implications on both the product and geographic market definitions and subsequent SMP assessment.

Mobile broadband was just taking off at the time of the 2010 market review. Back then the most common form of mobile broadband access was with a laptop using a mobile network via a dongle. Since then use of smartphones and tablets have increased the availability of mobile internet services, which in turn has driven more sophisticated use. Many end users now use their mobile devices to access internet services even when in their own homes, partly as a result of monthly contracts that include significant data download allowances. The introduction of 4G is likely to encourage some households to move away from fixed line broadband to complete 'mobile only' households.

Ofcom's Communications Market Report 2012<sup>3</sup> identified several key changes in the way individuals accessed the internet, particularly on the move. Users are increasingly accessing the internet directly from smartphones; using a PC 'tethered' to a smartphone or via a tablet computer with a SIM card. Ofcom's research identified that two-fifths of UK adults now own a smartphone, with the same proportion saying their phone is the most important device for accessing the internet.

It also found that, although nationwide, mobile broadband is more commonly used together with fixed broadband, there are certain groups, such as 16-24 year olds and transient groups (e.g. students) that bought mobile-only broadband services only<sup>4</sup>. Given the changing nature of how we access internet services, as well as ONS's projected increase in one-person households<sup>5</sup>, more people may be encouraged to move away from fixed line services to become 'mobile only'. For such subscribers mobile broadband may be an acceptable substitute, and as such mobile services will impose a degree of competitive pressure on fixed broadband services<sup>6</sup>.

Furthermore, the mobile broadband could also provide a stimulus for innovation and investment in broadband infrastructure and the internet as different players respond to competition in the market. It is important for this, and subsequent, market reviews to appropriately take this into account. We do not think it is reasonable for Ofcom to continue to ignore the impact of mobile broadband substitution in its market power analysis any more.

**Question 2** In our 2010 WBA Statement, we defined geographic markets by grouping together local exchanges with sufficiently homogenous competitive conditions, primarily by reference to the number of POs present or forecast to be present in exchanges. Do you agree that we should follow the same approach in this review?

In the 2010 market review we broadly accepted Ofcom's overall methodological approach to defining geographic markets by grouping together local exchanges with sufficiently homogeneous conditions based on the number of competitors present. Our position was that using exchange areas to define markets was not ideal as it focuses on just one of the two physical access networks (the other being Virgin Media's cable network). However we accepted it was the most pragmatic of the options

<sup>3</sup> Section 5.1.3 of Ofcom's Communications Market Report 2012 <http://stakeholders.ofcom.org.uk/market-data-research/market-data/communications-market-reports/cmr12/uk/>

<sup>4</sup> Figure 5.9 of Ofcom's Communications Market Report 2012

<sup>5</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/6395/1780763.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6395/1780763.pdf)

<sup>6</sup> For example, as assessed by RTR in Austria in its 2009 review.

available but suggested Ofcom should adjust its methodology to better reflect Virgin Media's presence.

We still believe this is the case and disagree with Ofcom's requirement for Virgin Media to serve 65% of delivery points in an exchange to count them as present in an exchange area. This is because it underestimates Virgin Media's presence and strength as it does not take account of the potential for Virgin Media to supply service to additional households at the edge of its existing network areas at low incremental cost.

This is in fact what has happened since the last review. Over the last 2 years Virgin Media has focused on upgrading their existing network to provide higher speed services. In parallel with this Virgin Media has also been extending their physical footprint into new areas. In the first half of 2011, they passed 73,000 additional homes, including in areas such as Derry, Staines and Southampton, and confirmed they were on target to pass at least 100,000 premises by the end of the year. In addition to the new areas, it is also believed that Virgin Media has been running "in-fill" initiatives to connect homes within areas already predominantly served, such as developments built since their original rollout. This shows that Ofcom should take a forward look at Virgin Media's plans, rather than a snapshot in time.

We expect that in a small but significant number of BT exchange areas this means that Virgin Media may now reach Ofcom's 65% threshold and should be counted as present in Ofcom's analysis, even though BT still believes 50% to be a more appropriate percentage for the reasons given above.

It is also important to recognise the difference between Virgin Media's cable television footprint and its broadband footprint (the latter being larger). In collecting data for this market review, Ofcom must ensure that it is using the appropriate data before coming to any conclusions about Virgin Media's presence.

**Question 3** In the last WBA market review we identified 4 geographic markets in the UK. Is it still appropriate to identify 4 geographic markets using the same criteria as in the last market review? Or have there been changes since the last market review, or are there any developments foreseen over the period of the next market review, that mean the number of geographic markets or the criteria used to distinguish the geographic markets may have changed? If so please give reasons for your views.  
and

**Question 5** Have there been any changes since the last market review that would impact our SMP assessment in the WBA markets identified in this review? If so, please give your reasons for your views.

Whilst we supported Ofcom's proposal to broaden the definition of Market 3 in the last market review, we believe Ofcom took an unduly cautious approach and should have deregulated all exchange areas with three major providers (including BT) irrespective of BT's historic market share.

Since the last market review competition has grown significantly with LLU rollout much more extensive than allowed for in the 2010 review, so that today's Market 2 is far more like Market 3 than Market 1. The market is now characterised by four major broadband providers with bundled offerings providing them with the ability to acquire broadband customers from strength in adjacent markets, and with access to finance and powerful consumer brands.

In this section we summarise the economic evidence supporting our view. In Annex 1 we provide a detailed assessment of the information available as well as analysis being carried out by our external advisors. We also believe that Ofcom should place more emphasis on other factors, apart from market share, that should be considered in the assessment on SMP.

#### Ofcom's focus on market shares for SMP assessment

The current market definitions requires BT's market share to be below 50% for exchanges with three operators to be deregulated. However, once two principal operators (POs) in addition to BT are present in an exchange area their impact on our market share is a matter of timing. Our experience is that market shares change rapidly after the big players have deployed in a particular exchange (see annex 1, page 21, Section III – Updated Assessment of Competition; part (iv) The Econometric Modelling). We believe that Ofcom underestimated this impact in the 2010 review.

In the last WBA market review Ofcom identified wholesale geographic markets by grouping together BT local exchanges in which the actual or potential competition was such that competitive conditions within each market were sufficiently homogenous<sup>7</sup>.

This approach followed EC guidelines<sup>8</sup> on market analysis which state that geographic markets should be defined by looking at areas where “*conditions of competition are similar or sufficiently homogenous*”. The guidelines go on to say that the definition of geographic markets does not require the conditions of competition to be:

*“..perfectly homogeneous. It is sufficient that they are similar or sufficiently homogeneous and accordingly, only these areas in which conditions of competition are heterogeneous may not be considered to constitute a uniform market”*

We believe that if Ofcom were to define geographic markets using the same criteria as the 2010 market review, this would result in a Market 2 where the conditions of competition were not homogeneous. We provide clear evidence that meaningful and sustainable competition and customer choice is effective and that BT's market share falls rapidly once three operators (including BT) are present. In this review Ofcom should take an appropriate forward-looking view and update the criteria for identifying geographic markets by eliminating the 50% market share threshold for Market 3.

To inform our analysis of the development of broadband competition since the 2010 market review we have commissioned the following two expert reports:

- We have asked SPC Network to comment on a number of points raised by Ofcom in the December 2010 final statement and to review the evidence of competitive entry since the last market review and the conclusions that can be drawn as a result of that entry. Their report is included in Annex 2.
- An update of Professor John Nankervis' 2010 study on the economic modelling of broadband competition over time. This work was carried out for the last market review and confirmed that

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<sup>7</sup> Paragraph 1.23 of the WBA Call for Inputs (November 2012)

<sup>8</sup> Paragraph 56 of the EC 202 guidelines on market analysis and assessment of SMP (2002/C 165/03)

after three operators are present in an exchange the impact of further entry on competition was very limited. Ofcom and its advisors made a number of comments on this analysis in the December 2010 final statement<sup>9</sup> and our views on these are also included in Annex 1. This report is currently being prepared and we hope to be able to share it with Ofcom in the near future.

#### The use of additional criteria for SMP assessment

The EC guidelines on SMP analysis emphasise that high market share alone is not enough to establish SMP and list a number of criteria that should be considered by regulators when assessing market power<sup>10</sup>. These include overall size of undertaking, easy access to capital markets/financial resources, product/service diversification such as bundled products or services, economies of scale or scope and highly developed distribution and sales networks.

Rather than consider these factors in the round, Ofcom's approach in the last market review was to take evidence on each of these criteria and conclude for each one separately that it would be reflected in BT's market share in an exchange. This approach was far too cautious and led Ofcom to underestimate the extent of effective competition in Market 2. It also meant that more emphasis was placed on current market shares, rather than considering the evolution of market shares over the market review period.

Instead, as indicated by the Commission, Ofcom should have considered the cumulative impact that all of the above factors together played on constraining BT's behaviour. Had Ofcom taken this approach, we believe that it could have reasonably concluded that the presence of any two of Sky, Virgin Media or TalkTalk in an exchange would be sufficient for competition to be effective within a three year market review period.

Below we summarise our assessment of the evidence (contained in Annex 1) in five key areas supporting our view that the case for effective competition with three POs is even more appropriate in 2012 than it was in 2010.

- a) LLU expansion continues to extend the reach of competition beyond the levels allowed for in the last review. So even if market shares continue to be used as the criteria for assessing SMP, we would encourage Ofcom to take account of the evolution in market shares.
- b) Measures of market concentration in today's Market 2 continue to fall to levels close to those in Market 3 when Ofcom first deregulated it in 2008.
- c) Retail bundling and "on net" pricing has strengthened the position of competitors leveraging their strengths from adjacent markets and networks. So they are able to gain significant market share over time once present in an exchange.
- d) A recently published economic study of broadband competition in the US also supports the view that three competitors are sufficient for effective competition.

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<sup>9</sup> Paragraphs 3.135 and 3.144 -3.145 of the WBA Final Statement (December 2010)

<sup>10</sup> Paragraph 78 of the EC 202 guidelines on market analysis and assessment of SMP (2002/C 165/03)



- e) A detailed analysis of the evolution of exchanges since December 2010 shows many exchanges with only BT plus one PO in December 2010 are already likely to be in Market 3 and the majority will be before the end of this market review.
- f) The Portuguese regulatory authority has identified that three operators in a geographic area is sufficient to deregulate the broadband market.

**a) LLU rollout continues to extend the reach of competition**

Ofcom has consistently adopted a cautious approach and underestimated the extent of LLU rollout<sup>11</sup>. Whilst we recognise the difficulties Ofcom faces in assessing the credibility of LLU operators' plans, it is nevertheless a fact that LLU rollout has been much greater in the last two market reviews than allowed for in Ofcom's analysis.

Our analysis shows that the level of LLU assumed in the last market review was achieved just one year into the three year market review and this growth was dominated by two POs, namely TalkTalk and Sky. There are good reasons to believe that LLU rollout will continue to grow during this market review period.

- Both TalkTalk and Sky have announced plans to extend their rollout to in excess of 3000 and 2500 exchanges respectively taking their 'on net' copper reach to 95% and 90% respectively<sup>12</sup>.
- Some of the critical costs of supplying MPF have been falling including lower MPF and backhaul charges and lower core bandwidth costs.
- TalkTalk has become more successful in the wholesale market winning contracts from BT and improving the economics of their business model.

In summary, there is every reason to expect LLU to continue to grow further. In fact, TalkTalk have stated their intention to expand beyond their announced 95% rollout as costs per exchange fall and ARPU grows<sup>13</sup>

**b) Measures of market concentration in Market 2 continue to fall**

Our preliminary evidence shows that a substantial proportion of exchanges where only BT and one other PO was present at December 2010 are already likely to be in Market 3, and long before the end of this market review it will be the majority of such exchanges.

One indicator widely used by economists to assess the extent of competition is the Herfindahl-Hirschman Index (HHI)<sup>14</sup>. HHI is an economic index used to measure market concentration a measure of the size of firms in relation to the industry and an indicator of the amount of competition among them.

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<sup>11</sup> Ofcom accepts that it has taken a cautious approach in Paragraph 3.134 of the WBA Final Statement (December 2010)

<sup>12</sup> [http://www.uswitch.com/broadband/news/2012/08/sky\\_aiming\\_for\\_90\\_uk\\_broadband\\_coverage/](http://www.uswitch.com/broadband/news/2012/08/sky_aiming_for_90_uk_broadband_coverage/) and <http://www.talktalkgroup.com/~media/Files/T/TalkTalk/pdfs/presentations/2012/13-11-2012-interim-pres.pdf>

<sup>13</sup> Slide 8 of TTG results presentation (13 November 2012)

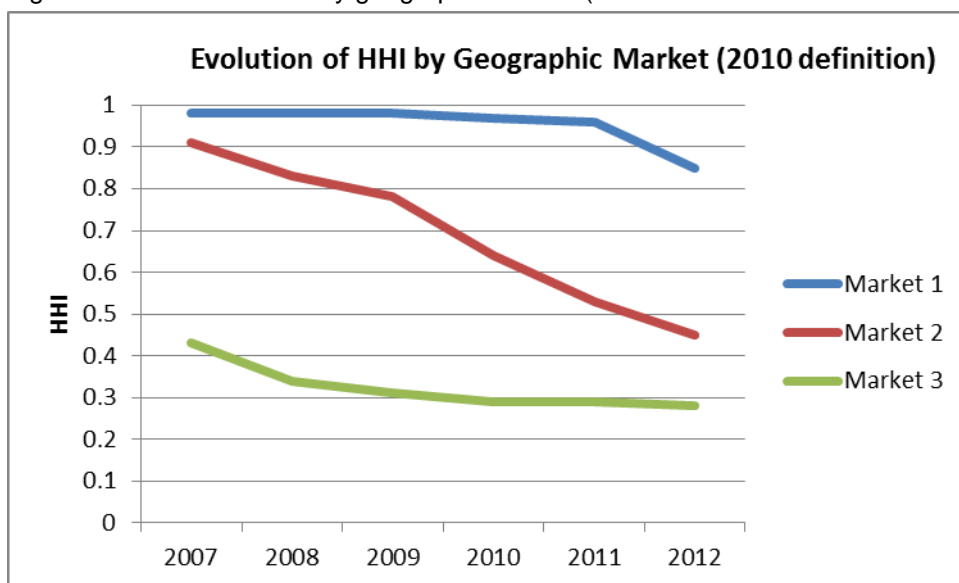
<http://www.talktalkgroup.com/~media/Files/T/TalkTalk/pdfs/presentations/2012/13-11-2012-interim-pres.pdf>

<sup>14</sup> HHI is defined as the sum of the squares of the market shares of the firms within the industry, where the market shares are expressed as fractions.

The HHI allocates a value which lies between 1 in the case of monopoly and zero for an infinite number of competitors. Competition authorities typically look at the change in the index to evaluate whether markets are becoming more competitive rather than the absolute value itself.

Figure (a) below shows the evolution of the HHI index by geographic market since 2007. There is a clear trend of increasing competition (declining HHI) in Market 2: HHI falling by 30% between September 2010 and September 2012. Taking a forward look, by the end of the market review it would be reasonable to expect that market concentration will continue to fall towards the level found in Market 3.

Figure 1: Evolution of HHI by geographic market (based on 2010 market definitions)



SPC Network have reviewed these results (see annex 2) and used them to compare the competitive conditions in the WBA market with mobile access and call origination – where there is no regulation. SPC Network concludes that:

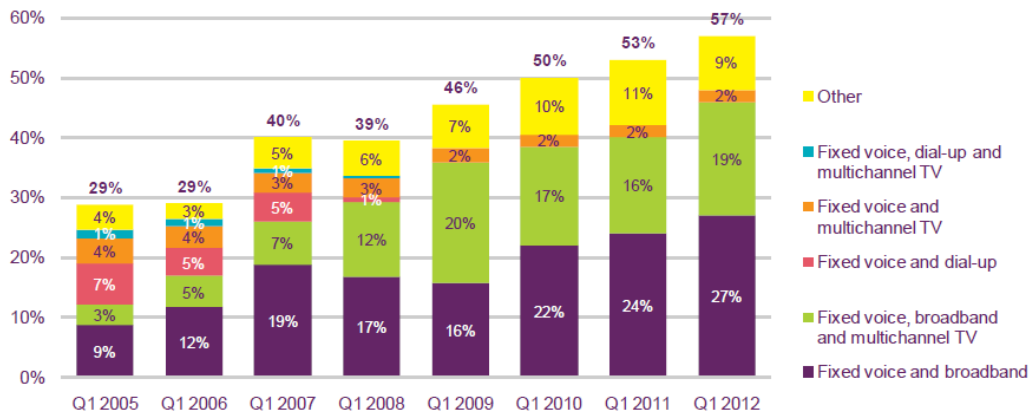
- The Market 3 HHI is lower than all but two EU member states for mobile
- The “direction of travel” of Market 2 is towards the same level of HHI as both Market 3 and EU mobile markets.

**c) Retail bundling and ‘on net’ pricing has strengthened the position of competitors**

The trend for consumers to purchase broadband as part of a bundle has continued upwards since the last market review. There is fierce competition for customers to source all their requirements from one supplier for the longer term. This trend is illustrated in Figure 2 below from Ofcom’s 2012 Communications Market Report published in July 2012. This shows that the proportion of consumers who now purchase communications services in a bundle increased from 50% in 2010 to 57% by the first quarter of 2012.

Figure 2: Increasing trend towards purchasing broadband in a bundle

**Figure 1.10 Take-up of bundled communications services over time**



Source: Ofcom technology tracker, Q1 2012. Base: All adults aged 16+ (n=3772)

The most popular type of bundle is dual fixed voice and broadband, but take up of triple play bundles of voice, broadband and TV is increasing. Bundling has a powerful impact on competition and consumer behaviour with two thirds of consumer customers who leave BT stating a bundle with a competitor was the key reason for doing so.

Ofcom's approach to date has focused almost entirely on market share in broadband access as the primary indicator of the strength of competition in an exchange. We think this underestimates the constraining effects the increase in retail bundling has on wholesale markets.

Furthermore, LLU operators continue to adopt common pricing ('on net') within their network footprints. This has the effect of linking Market 2 and Market 3 exchanges as the competitive conditions of the latter 'spill over' to the former. In the last market review Ofcom suggested that the strength of the competitive effects from retail bundling and on net pricing were relatively modest<sup>15</sup> and would be reflected in the market shares at each exchange.

By focusing on market shares in broadband access as the measure of competition in the exchange, Ofcom's market power analysis would not take appropriate account of the constraints on BT's behaviour from on net pricing and retail bundling.

**d) A recently published economic study of broadband competition also supports the view that three competitors are sufficient for effective competition**

In the last market review, we referenced a number of pieces of academic research<sup>16</sup> from other industries which supported our view that the benefits to competition were gained once the third firm entered a market with additional entrants having a smaller impact. Ofcom's view was that the results

<sup>15</sup> Paragraph 3.137 of the WBA Final Statement (December 2010)

<sup>16</sup> Bresnahan, T and Reiss, P (1991) *Entry and Competition in Concentrated Markets* The Journal of Political Economy, Vol. 99 No. 5 (Oct. 1991) pp 977 – 1009; Kolansky, W.J. (2002) *Coordinated Effects in Merger Review: from dead Frenchmen to Beautiful minds and mavericks* Speech to the American Bar Association, April 24<sup>th</sup> 2002, Washington D.C.; OPTA (2006) *Is two enough?* Economic Policy Note no. 6 and; Davies, S (2003) *How many sellers do we need for effective competition?* CCR Newsletter, Issue 5

from these studies “cannot be extrapolated directly to competition for wholesale supply in a BT local exchange”<sup>17</sup>.

Since the 2010 consultation, two further pieces of research have been conducted specifically on broadband markets. The first by Xiao and Orazem (XO) explores the competitive effects of entry in the US broadband market. We have asked SPC Network to review this and their detailed assessment is available in Annex 2. SPC Network concludes that the findings in the XO study supports our original proposal that three POs present in an exchange is sufficient for effective competition.

A second paper by Nardotto et al looked at the impact of LLU entry in the UK market on total broadband penetration and quality of service competition. However, their analysis does not explicitly consider the impact on the market depending on the number of LLU operators.

**e) BT’s market shares in unbundled exchanges has continued to fall since December 2010**

LLU operators have unbundled exchanges continuously throughout this period, with ‘waves’ of activity. Our analysis of exchanges and the timing of LLU entry since December 2010 shows that a third of the exchanges that were designated as being in Market 2 would be categorised as Market 3 under this review. Another third are likely to be fully competitive by the end of the current market review period.

We have also analysed the impact of entry on BT’s market share. In the relatively short time since the 2010 WBA Statement, BT continues to have market shares of above 65% following LLU entry in only a minority of exchanges have where. As such, we believe that the use of current or historic market shares in the market definition is not appropriate. They are unlikely to be representative of what happens as a result of competition.

**f) Portugal NRA has already deregulated a geographic broadband market where three operators are present**

ANACOM, the National Regulatory Authority of Portugal, has defined two geographic broadband markets, and deregulated one on the basis that three operators were present<sup>18</sup>. The regulatory obligations were removed from Portugal Telecom in geographic exchange areas where, in addition to Portugal Telecom, there is at least one local loop unbundling (LLU) operator and where cable penetration exceeds 60% of households.

ANACOM’s decision is in contrast to Ofcom’s existing position where exchanges with three Principal Operators are still included in Market 2 and regulated unless BT’s market share is below 50% when it is included in the deregulated Market 3. ANACOM’s approach would lead to deregulation of additional exchanges currently regulated in Market 2.

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<sup>17</sup> Paragraph 3.33 of the ‘Review of wholesale broadband access markets: Second consultation on market definition, market power determination and remedies’ 20 August 2010  
[http://stakeholders.ofcom.org.uk/binaries/consultations/wholesale-broadband-markets/summary/WBA\\_condoc.pdf](http://stakeholders.ofcom.org.uk/binaries/consultations/wholesale-broadband-markets/summary/WBA_condoc.pdf)

<sup>18</sup> Section II.2.2 of the Commission’s comments pursuant to Article 7(3) of Directive 2002/21/EC (Case PT/2008/0851) to ANACOM on 5 January 2009  
[http://circa.europa.eu/Public/irc/infso/ecctf/library?l=/portugal/registeredsnotifications/pt20080850-851/pt-2008-0850-851/\\_EN\\_1.0\\_&a=d](http://circa.europa.eu/Public/irc/infso/ecctf/library?l=/portugal/registeredsnotifications/pt20080850-851/pt-2008-0850-851/_EN_1.0_&a=d)

**Question 4** What is the most appropriate way to capture changes in competition that may arise from future roll-out by POs? If we continue to use forecast rollout plans provided by POs, how should we take account of possibility that such plans may change in the future?

One of the basic requirements of the market review process is that it should be forward looking, as set out by the European Commission's SMP guidelines. As detailed in our response to questions 3 and 5 above, in previous market reviews Ofcom's analysis has underestimated LLU rollout. As a result it has failed to sufficiently consider how the number of operators is likely to change within the three year horizon of the review.

The reason for this is that Ofcom's method only takes into account committed rollout for the immediate future as it needs to know precisely which exchanges operators intend to unbundle for them to impact on market definition. This is a key dependency in Ofcom's approach. So even if an operator has made a strategic decision to unbundle, for example, 200 additional exchanges, unless Ofcom has the precise details of which exchanges these are, Ofcom's analysis ignores them<sup>19</sup>.

Whilst we recognise the difficulties in capturing the changes in competition from future rollout by POs, the answer cannot be for Ofcom to continue to ignore planned rollout because of the shortcomings of the analytical model. An alternative approach is to establish a refresh of market boundaries mid-way through the market review period and/or base the market boundaries on forecasts.

## **Remedies**

**Question 6:** What are your views on how well the current remedies have worked in promoting downstream competition? Please provide evidence or give reasons for your views.

**Question 7:** How effective have the current remedies been in addressing the market failures identified in the 2010 WBA Statement and in supporting competition and market entry? Please elaborate with examples.

**Question 8:** If the current remedies have not been effective, in the event we find one or more CPs has SMP, what remedies do you consider we should we apply and why?

**Question 9:** Do you consider that the scope of the charge control was correct in terms of the products and services subject to the control? Has the charge control been effective? Looking ahead do you consider that a charge control is an appropriate remedy in the event that we find one or more CPs has SMP in the WBA market? If so, why?

The current remedies generally have worked well in promoting competition at both at the retail and wholesale level and in supporting market entry. At the retail level, Ofcom's 'International Communications Market Report 2012' published in December 2012 found that, across a number of major economies, the lowest overall average stand-alone fixed broadband prices were found in the

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<sup>19</sup> This is precisely what happened with regards to a significant part of TalkTalk's rollout plans in the 2010 WBA market review.

UK in 2012, with the UK also showing a price fall between 2011 and 2012 across various types of communications baskets consumed by different household type (see figure 2.7).<sup>20</sup>

As regards market entry, both Sky and TalkTalk continue to rollout out their LLU networks. TalkTalk are now actively wholesaling broadband services and have announced their intention to unbundle 3025 exchanges by March 2014. This means end users will be served by at least two competing wholesale broadband suppliers in 95% of the UK.

Ofcom has enabled competition and entry to take place by focusing the scope of the last charge control on ensuring an anchor product was available at a controlled price while providing the opportunity for new services to emerge. As a result, BT has continued to upgrade its broadband network rolling out an Ethernet-based broadband service (known as Wholesale Broadband Connect or WBC) to customers in today's Market 2 and some of Market 1, significantly reducing investment in its older ATM-based IPstream product. The sharp reduction in the Capital Employed associated with this service has led to a temporary spike in returns (RoCE) until customers migrate to the newer product. With increased rollout and take up of WBC, we would expect the RoCE to fall to a level consistent with a sustainable development. We would encourage Ofcom to continue to provide the environment for sustainable investment in this market.

The decision to impose any constraint on BT in an SMP market needs to be proportionate and justified under the legal framework set out by the Communications Act. Notwithstanding our views on market definition and market power, we broadly agree that for markets where SMP is determined it is appropriate for general access and non-discrimination remedies to be imposed.

However a finding of SMP alone is clearly insufficient to justify the imposition of specific pricing constraints whether via charge controls, safeguard caps or cost orientation requirements. Ofcom should always seek to impose the lightest touch constraints to address the identified concerns.

Looking ahead, given the extent of competitive wholesale broadband provision, BT believes that the imposition of a charge control would be disproportionate. Explicit modelling of services in such a small area could be subject to large fluctuations in the unit costs due to the small level of volumes when compared against the costs that need to be recovered.

We believe that a lighter touch approach is sufficient and a safeguard cap could be set that recognised the need for further investment, by BT or others, to improve the service offered to the remaining 5% or so of premises in the UK.

Ofcom should follow the direction it has taken in the Business Connectivity Market Review<sup>21</sup> (BCMR) and also refrain from combining any safeguard cap (or other form of charge control) with a cost orientation obligation. This would avoid creating overlapping, overly complex and unnecessarily intrusive regulation that merely creates uncertainty for all stakeholders.

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<sup>20</sup> Where fixed broadband was consumed as part of a bundle, the lowest stand-alone 'best offer' prices for the fixed broadband element (where fixed broadband featured in a communication basket) were also found in the UK in 2012, again with a price fall between 2011 and 2012 across basket type. (figure 2.8). See [http://stakeholders.ofcom.org.uk/binaries/research/cmr/cmr12/icmr/ICMR\\_Section\\_2.pdf](http://stakeholders.ofcom.org.uk/binaries/research/cmr/cmr12/icmr/ICMR_Section_2.pdf)

<sup>21</sup> See paragraphs 2.24 to 2.37, 4.21 to 4.30 and 5.69 to 5.74 of the Leased Lines consultation at [http://stakeholders.ofcom.org.uk/binaries/consultations/llcc-2012/summary/LLCC\\_2012.pdf](http://stakeholders.ofcom.org.uk/binaries/consultations/llcc-2012/summary/LLCC_2012.pdf) and 10.117 to 10.119 and 11.175 to 11.176 of the BCMR consultation at <http://stakeholders.ofcom.org.uk/binaries/consultations/business-connectivity/summary/sections815.pdf>

**Question 10** Are there any particular problems or issues in the WBA markets that this review should address? Where you identify a problem, please explain whether you believe regulation to be an appropriate response.

We have no further comments.

## **ECONOMIC ANALYSIS OF THE WBA MARKET**

### **I. Introduction**

1. The most relevant issue for BT with regard to the geographic markets in this review is the use of a 50% share threshold. Whilst we supported Ofcom's proposal to broaden the definition of Market 3 in the last market review, we maintain our position that all exchange areas with three major providers (including BT) should be deregulated irrespective of BT's historic market share. This annex reviews the economic analysis underpinning the evidence of effective competition and the geographic markets and is structured as follows.
2. We start with a brief response to some of Ofcom's comments in the December 2010 WBA Statement. In general, we consider that there is broad agreement between BT and Ofcom on the relevant economic features of this market which need to be examined. However there is not full agreement on the 'interpretative outcome' of the various strands of evidence and analysis in terms of the geographic economic markets and in particular the share threshold of 50% where it is BT + 2 Principal Operators (POs) present.
3. We then present evidence on the trends since December 2010, noting that we are only just over half way through the current market review and it is not possible for us to draw on as much material as would be desirable. We also set out the work being undertaken by our external consultants which we hope to be able to share with Ofcom in early 2013.
4. The final section draws together the different strands of analysis. Once two POs have rolled out into an exchange the consequential impact on BT's market share is mainly a matter of timing. This is because there are no additional barriers to entry *or expansion* which those POs face to compete just as aggressively as in the deregulated Market 3 exchanges.
5. Indeed, Ofcom has specifically put in place stringent rules to aid switching at the retail level of broadband services<sup>22</sup>. Market share loss from entry may considerably exceed any initial transfer of bitstream customers from wholesale migration if the CP has not attempted to acquire significant numbers of 'off net' customers in the past and its main entry strategy is to persuade customers to switch at the retail level.
6. In any case, market share cannot be taken as the sole measure of dominance in any market and especially in exchanges which are inextricably inter-linked through pricing spillovers ('on-net' pricing) across all exchanges which we discuss in detail below.

### **II. Ofcom's 2010 WBA statement**

7. In response to the first and then more limited second consultations in 2010, we set out a framework for the assessment of competition on a number of linked but distinct strands of analysis:

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<sup>22</sup> For example, where a customer is switching to/from an LLU provider, the Advice of Transfer ('AoT') process is used and the losing CP is not allowed to contact their customer on the back of the Openreach AoT notification to make a save offer – they can only give them factual info about when the switch will take place. On length of contracts, no consumer contract is allowed to be longer than two years, and all CPs must have a maximum 12 month contract available as an option.



- A description of the nature of retail competition which emphasised the role of how product bundling and the supply of some of these services from other distinct platforms is having an impact across the provision of broadband services for the majority of consumers. If a PO with a source of market power in any one of the components supplies a bundle it can (via price discrimination) facilitate a more compelling bundled proposition and compete more aggressively against BT (and other POs).
  - The particular role of 'on-net' pricing which results in 'spillover effects' across different exchanges tending to bind them together from common pricing 'constraints'.
  - The dynamic factors affecting LLU and potential for considerably more entry over time.
  - The possibility of identifying different types of POs (Tier 'A' versus Tier 'B') taking into account their relative success in attracting consumers and how BT might be able to respond to these different types of PO according to their presence in different exchanges.
  - The movements in concentration indices both over time and across different exchange areas which facilitated a more objective classification of exchanges into different geographic markets.
  - Econometric modelling showing the impact on BT (and other POs) both of the total number of POs from LLU and of the presence of specific LLU operators.
8. We now respond to the comments made by Ofcom in Section 3 of the 2010 Statement.
- (i) LLU roll out**
9. Ofcom accepted that it had been 'cautious' in this area<sup>23</sup>. It has long been our position that Ofcom has consistently under-estimated likely LLU<sup>24</sup> and adopted a precautionary principle that has worked against BT. That is, SMP remedies have been applied to exchanges where competition has occurred.
10. Whilst we accept that Ofcom has difficulties in forecasting LLU consistently, the fact remains that LLU has been much greater in each market review than Ofcom's model has predicted. Notwithstanding our position on the difficulties which Ofcom faces in assessing the credibility of plans by CPs, it is relevant to consider the history of the previous two market reviews for this review.
11. In our June 2010 submission, we presented information which showed that as a result of LLU entry BT's share in Market 2 had fallen much more rapidly than Ofcom had forecast. Since then there have been a number of changes: movements Market 1 to Market 2 and from Market 2 to Market 3 and the exit of Orange as a Principal Operator. Given these changes, we think the best way to present this information is to look at the final impact, ie LLU coverage associated with Market 3. We have used this benchmark to assess the LLU forecasts against market review assumptions.
12. Figure A1 below shows the coverage of Markets 2 and 3 using current definitions and on the basis of the actual rollout already completed by TalkTalk and Sky relative to the Ofcom's forward

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<sup>23</sup> Paragraph 3.134 of the WBA Final Statement (December 2010)

<sup>24</sup> See for example, BT Response of 21<sup>st</sup> June 2010 to Ofcom's first consultation. In Section 3.2.7 and Annex 2 Table 6 we highlighted that Ofcom has a pattern of underestimating LLU rollout.

look up to December 2010 in the last market review. The chart also projects the likely movement of exchanges and household coverage into the three geographic markets based on public announcements made by TalkTalk and Sky of their rollout plans. The area below the red line represents fully competitive exchanges in the current definition, the area between the red and blue lines represents Market 2 and the area above the blue line is Market 1<sup>25</sup>.

13. The figure shows that the level of LLU in Market 2 assumed in the forward look of the 2010 WBA market review was achieved just into the three year review period and the equivalent for Market 3 just into the market review. The projections over the remainder of the current review period demonstrate how conservative Ofcom's forward look was.

Figure A1: Growth of LLU following 2010 WBA  
(Household coverage of Markets 1-3)

[Figure A1 redacted]

14. The effects of understating LLU entry have an impact on the classification of exchanges into the different geographic markets. They are also critical in the assessment of competition for Market 2. As shown above, it is also clear that competition has extended into Market 1 beyond Ofcom's forecasts.

#### **(ii) Bundling and common pricing across exchanges**

15. Ofcom linked the two issues of bundling and common ('on-net') pricing to the assessment of market power which is proxied by BT's wholesale market share<sup>26</sup>. We do not feel that this is a fair interpretation of the Commission Guidelines which highlights the need to understand the nature of constraints that affect *behaviour*.
16. Ofcom suggested that if the effects of common pricing only shows over an extended period of time - *then the strength of the competitive effects they create is relative modest*<sup>27</sup>. We do not feel that this follows. The possibility of cumulative effects over time does not dictate that the end impact will be modest; what was stated was that the effect can only be discerned over a period of time *ex post*. SPC Network respond to this point in more detail.
17. We provide some additional discussion on product bundling below, both on its general relevance to broadband access and the specific issue of the assessment of competitive conditions where BT currently has in excess of 50% market share.

#### **(iii) Classification of POs into Tier A and B**

18. We understand Ofcom may be reluctant to differentiate between smaller and larger POs as arguably being too subjective<sup>28</sup>.
19. Since 2010, the distinction we previously proposed is arguably less relevant now and we do not see this as a major issue. The vast bulk of exchanges where either it is BT+1 or BT+2 POs will be represented by combinations (singly or jointly) of BT plus Virgin Media, TalkTalk and/or Sky. The number of exchanges where it is a much smaller PO (in terms of retail share) are comparatively

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<sup>25</sup> There are likely some minor discrepancies between our information and that of Ofcom. We do not believe this to be material.

<sup>26</sup> Paragraph 3.136 - 3.137 of the WBA Final Statement (December 2010)

<sup>27</sup> Paragraph 3.137 of the WBA Final Statement (December 2010)

<sup>28</sup> However, Ofcom itself has made some judgement for example in applying the 5% threshold and exclusion of Udata as a Principal Operator.

few. Table A1<sup>29</sup> below shows that on our estimates, there were 3 exchanges in June 2010 in Market 2 where there was BT+2 POs with BT share greater than 50%.

Table A1: Breakdown of BT+2 POs Exchanges June 2010\*

[3 Table A1 redacted]

20. 3

**(iii) Concentration indices.**

21. Ofcom<sup>30</sup> appeared to dispute the relevance of the HHI at the exchange level in 2010. We present updated information and comparative charts below. Service share at the exchange level is necessarily only indicative given that the geographic economic market boundary is not definitive and alternative formulations incorporating those exchanges under consideration will imply different average market shares<sup>31</sup>.

**(iv) Our modelling work and its interpretation**

*Migration*

22. Ofcom raised a number of issues including the assessment of the impact of migration and argued that migration is already accounted for in the market definition as the 50% threshold allows for future reduction in BT's share. In 2010 we were of the view that our modelling might not have been able to capture all effects of entry in exchanges where POs had not made extensive use of bitstream access for 'off-net' customers. The entrant PO then has to win share from BT and any other POs present in that exchange at the retail level rather than simply transfer over customers at the network level. We are currently reviewing the econometric analysis on share loss following entry by POs.

23. In general retail share loss might take longer initially after LLU entry than bitstream transfer (bulk transfer in particular) simply because retail customers will be on contracts of varying lengths (up to a year) and it may take some time for full retail competition to be effective as consumers in an exchange become aware of greater alternatives. As noted above, Ofcom has extensively regulated switching processes so that there are no barriers to expansion for LLU entrants, especially those taking MPF.

*BT Service Share with TalkTalk and Sky*

24. Ofcom<sup>32</sup> suggested that there was a counter-intuitive finding of BT's level of service share being *higher* when CPs enter a market. We understand that this is a statistical artefact relating to the particular exchanges which CPs have entered and is not a causal relationship between BT's share and LLU entry. In other words the modelling equation is not saying that entry will raise BT's share, but rather the entry is associated with particular types of exchange.

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<sup>29</sup> This table is shown with results presented symmetrically in the upper and lower halves.

<sup>30</sup> Paragraph 3.143 of the WBA Final Statement (December 2010)

<sup>31</sup> We wrote about this matter at some length in 2010 in response to the First Consultation and the issue has been examined in considerable detail in the recent BCMR review including the report by Dotecon. Again we feel there is largely agreement in principle between BT and Ofcom on this matter with differences in assessment of the strength of the evidence pointing to presence or absence of SMP.

<sup>32</sup> Footnote 73 of the WBA Final Statement (December 2010)

*The Econometric Analysis and Effective Competition*

25. Ofcom<sup>33</sup> appeared to cast doubt on the implications of what we wrote about total broadband penetration and what our claims were for this analysis<sup>34</sup>.
26. The two primary strands of our analysis were the impact on BT (at both retail and wholesale levels) of specific CPs when they enter the market and in more general terms the absolute number of competitors. We do not see that Ofcom or its external advisor made any material challenges or criticisms of this work or the findings but rather there is some disagreement on its interpretation.
27. The substantive issues which Ofcom raised in 2010 was of the interpretation of the econometric modelling:
- 'We also think it is particularly dangerous to extrapolate from the past performance of specific POs (as opposed to projecting aggregate trends). This is a dynamic market in which the relative strengths of POs will change over time and while we accept that there is a general downward trend in BT's share, we do not feel the performance of specific POs can legitimately be extrapolated into the future, particularly as their commercial and marketing strategies might change.'* [Paragraph 3.135]
- '...[we] accept that there are variations in competitive conditions in exchanges where three POs are present or forecast ... However, we maintain that the concentration measures presented do not establish that all exchanges where three POs are present or forecast can be regarded as competitive'. [Paragraph 3.143]*
- 'It is inherently difficult to draw robust inferences about future behaviour from statistical analysis of the type conducted by Professor Nankervis.'* [Paragraph 3.145]
28. We consider that this is an important matter which we discuss below but it is not one of any fundamental technical disagreement.

*Other research*

29. We are aware that a separate piece of analysis on broadband growth has been undertaken using UK information at the exchange level<sup>35</sup>. The primary focus of that research is firstly on the impact of entry on total broadband and secondly the impact of entry on BT's services. We invited both SPC Network and Professor Nankervis to comment on this Paper and set out our understanding below.
30. Nardotto et al<sup>36</sup> found that correcting for income, in a number of formulations, that LLU entry had a negative impact on total broadband penetration. Conversely, Professor Nankervis<sup>37</sup> found a

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<sup>33</sup> Paragraph 3.145 of the WBA Final Statement (December 2010)

<sup>34</sup> To clarify, this analysis of total broadband penetration was only done at the request of Professor Verboven and never formed a central part of our position that the presence of BT+2 POs would be sufficient to determine a finding of effective competition.

<sup>35</sup> *Unbundling the incumbent: Evidence from UK broadband* by Nardotto, Valletti and Verboven (CEPR Discussion Paper No 9194 October 2012)

<sup>36</sup> Table 3 of Nardotto et al

<sup>37</sup> Table R1 in Annex B of BT's October 2010 WBA Market Review response  
[http://stakeholders.ofcom.org.uk/binaries/consultations/wholesale-broadband-markets/responses/BT\\_Annex\\_B.pdf](http://stakeholders.ofcom.org.uk/binaries/consultations/wholesale-broadband-markets/responses/BT_Annex_B.pdf)

modest positive impact of LLU on total broadband penetration of roughly +1% in level at any particular point in time.

31. The Nardotto et al finding of a negative impact is a counter-intuitive result which if true, would have serious policy implications. Oftel and then Ofcom implemented unbundling of to foster dynamic competition through differentiation ensuring that customers were given wide choice and that different tariffs and services would cater for the population thereby reducing reliance on BT and the cable network. An integral part of the argument for dynamic competition is to expand the total market and speed the take-up of broadband. If unbundling actually had a negative impact on broadband penetration it would suggest that this policy had been harmful.
32. However, further examination shows that their most sophisticated version of the model<sup>38</sup> in fact has almost the same positive impact of LLU as Professor Nankervis of +1.4%. Further, cable (correctly) has a positive impact in all models. This suggests that the simpler equations are likely to be not fully specified. The inherent difficulty with these models is that LLU entry is not independent of socio-economic factors and for example income so that there will be a complex set of associative correlations between these different explanatory variables.
33. In summary, we do not consider that there is likely material disagreement between the two sets of results on total penetration of broadband taking account differences of model specification, time periods and data differences as well as underlying complexities of understanding the dynamics of LLU entry. The other results do not affect our stance on the effectiveness or otherwise of presence of POs alongside BT.

### **III UPDATED ASSESSMENT OF COMPETITION**

#### **(i) LLU**

34. Figure A4 below shows the trends of LLU by PO since 2010 where it is readily apparent that TalkTalk and Sky are still trending strongly upwards.

[✂ Figure A2 redacted]

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<sup>38</sup> Nardotto et al called this the GMM dynamic model

35. Factors which would otherwise indicate that LLU might not continue include:

- BT and other CPs (under BDUK) will be rolling out fibre in what are currently Market 1 and 2 exchange areas and where public funds will subsidise this infrastructure to some degree making the wholesale price competitive against copper bitstream.
- The current level of LLU is already very high and the marginal exchanges become increasingly smaller and where customer numbers could be much less than 1000.
- The move to pure LRIC for termination of voice calls will reduce revenue for MPF operators even if this is under a glidepath.

36. However, there are good reasons to believe that LLU roll out will continue significantly in the forthcoming market review period:

- Both TalkTalk and Sky have announced plans to extend their roll out to in excess of 3000 and 2500 exchanges respectively taking their 'on net' copper reach to 95% and 91% respectively<sup>39</sup>.
- Some of the critical costs of supplying MPF have themselves been falling in real terms including lower MPF and backhaul costs, lower core bandwidth costs and the likelihood that some network assets may now be internally charged at lower levels by CPs as they are more depreciated.
- The sharp recession has resulted in a price war for broadband and linked services and which has assisted the lower cost operators using MPF to acquire more price sensitive consumers whom in general have become much more price conscious.
- TalkTalk has become more successful in the merchant market winning contracts off BT and supporting their LLU network.

37. In summary, we feel that there is still a lot of 'mileage' in LLU and fibre uptake - whether supplied from BT or by another CP under BDUK - may be highly targeted by other POs and not materially dampen copper LLU. It is quite plausible that when this market review is concluded, that both TalkTalk and Sky will expand even further from their announced rollout thresholds.

**(ii) Bundling and common pricing constraints.**

38. There is a consensus that bundling is becoming more prevalent with particular emphasis on triple play customers<sup>40</sup>. To put the triple play issue into context, of the three sets of principal services being sold to consumers:

- Fixed voice is falling in volume terms at around 10% per annum<sup>41</sup>.
- Broadband penetration is growing at perhaps only 0.5-1.0% pa on a household basis (and most of these new households are not heavy users of broadband).

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<sup>39</sup> TTG and Sky press announcements see our main body response for sources.

<sup>40</sup> We provided detailed market intelligence on bundling to Ofcom in our response to the call for inputs for the Narrowband Market Review (May 2012). Our estimates of the level of true product bundling are considerably higher than those reported by Ofcom in its Communications Market Report but there is broad agreement of the trend upwards.

<sup>41</sup> These data are derived from Ofcom published statistics and other sources available on request.

- Premium TV is at around 50% of households which has changed little over the past few years but there is a strong perception in industry that this market might be grown and especially for those currently just taking dual bundles of voice and broadband<sup>42</sup>.
39. The competition, therefore, for those taking broadband (with or without premium TV) has become intense as CPs perceive that delivery of general paid for content (whether across fixed or wireless networks) could become a major revenue opportunity. Competition is most certainly dynamic for both dual and triple play customers and a battle is being fought to acquire customers sourcing all their requirements from one supplier.
40. Ofcom is looking at market shares in broadband access as the principal indicator of the strength of competition in the exchange. However, the relevant downstream retail market is much wider than this and BT is far less represented for example in premium TV than some other POs. Our view is that their size and power means that the indirect constraints from this wider retail competition are much stronger on BT at the level of the provision of bitstream access. Where other providers can use sources of market power to price the bundle competitively, then this has a linked impact on the pricing of the input into broadband access.
41. The 40% or 50% threshold that Ofcom uses for WBA is in our view much too conservative as it only refers to the share level of a simple market relationship with one downstream or retail product linked in a direct or 'linear' way with one upstream or wholesale component. We refer to the accompanying report by SPC network on this. We also draw reference to the BEREK Report on self-supply which noted that the assessment of indirect constraints is not at all straightforward even in a single product case let alone where there is bundling involving several products<sup>43</sup>.
42. We also believe that spillover effects to be even stronger now than before for two specific reasons. Firstly, bundling is strengthening the extent of underlying competition and spillovers essentially as premium TV in particular is a 'national' service from Sky and this will tend to push exchanges where Sky is present into a single geographic market. As noted above Sky has expanded its LLU footprint significantly. Second, some POs are drawing even stronger distinctions between the pricing of on-net and off-net services with even wider differentials.
43. The net result of bundling and spillovers is that even where BT faces only one other PO, its market position and its pricing is even more strongly constrained than before from the level of activity and state of competition in the exchanges which are already accepted as being 'fully competitive'. On this matter, we note that Ofcom<sup>44</sup> did not dispute the issue as such, but more its relevance relative to a share threshold at the exchange level.

### **(iii) Updated analysis of concentration indices**

44. We have updated the assessment of the HHI across all exchanges and this is shown in Figure 3 below which excludes customers across BT fibre and Figure A4 which has all retail customers in alignment with Ofcom's product market for the latest period. As can be seen from the latter, fibre makes little difference fractionally raising the indices mainly in Market 3.

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<sup>42</sup> One factor which is strongly influencing this convergence is the development of smart TVs which are internet-enabled and the associated developments such as YouView.

<sup>43</sup> BEREK Report on self-supply BoR (10) 09 March 2010.

<sup>44</sup> Paragraph 3.136 of the WBA Final Statement (December 2010)

Figure A3: HHI across BT Exchanges since 2007<sup>45</sup>

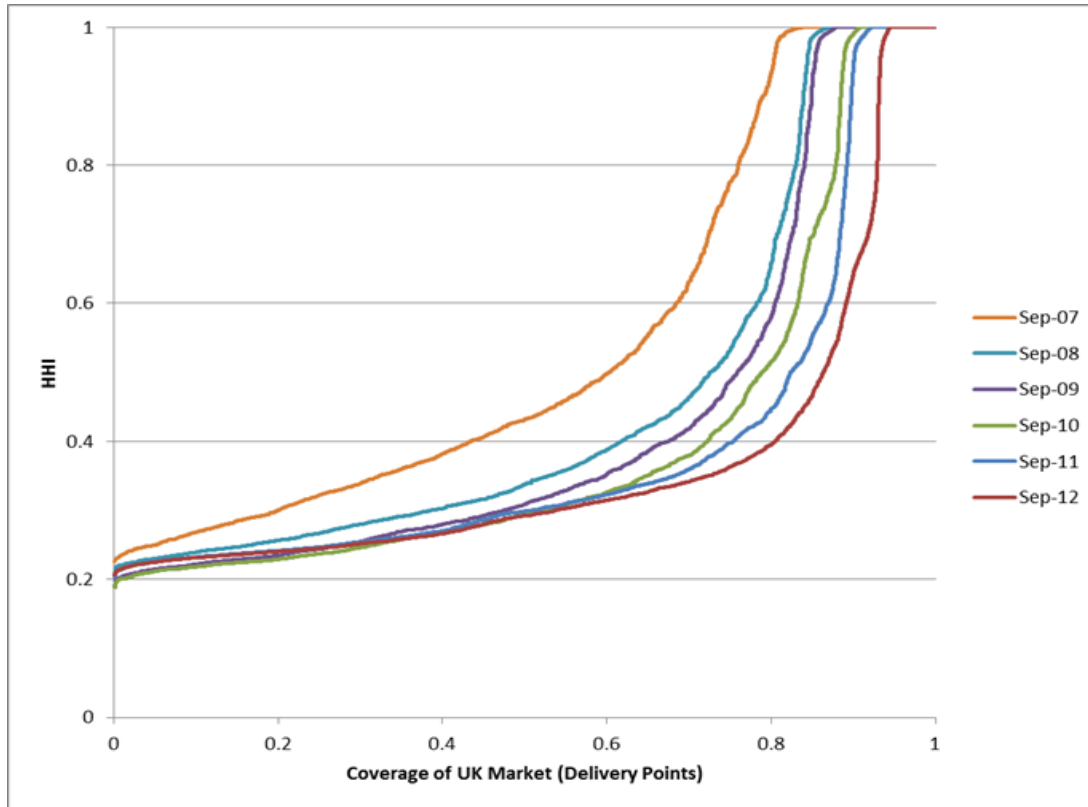
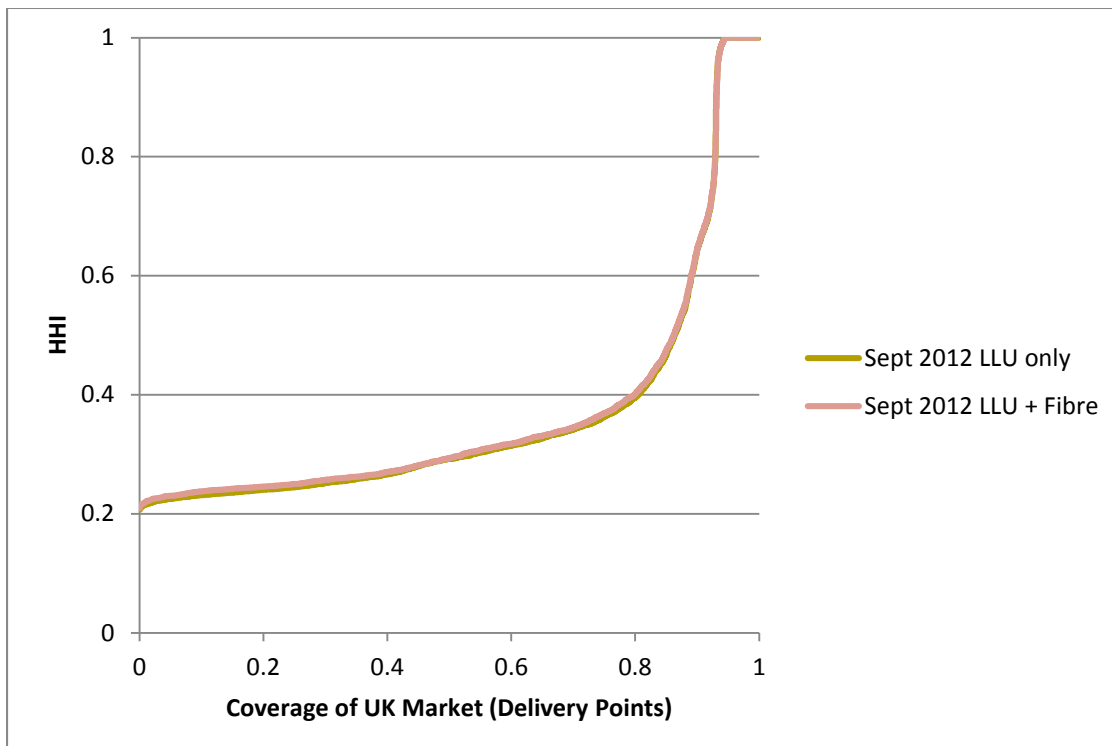


Figure A4: HHI for exchanges in September 2012

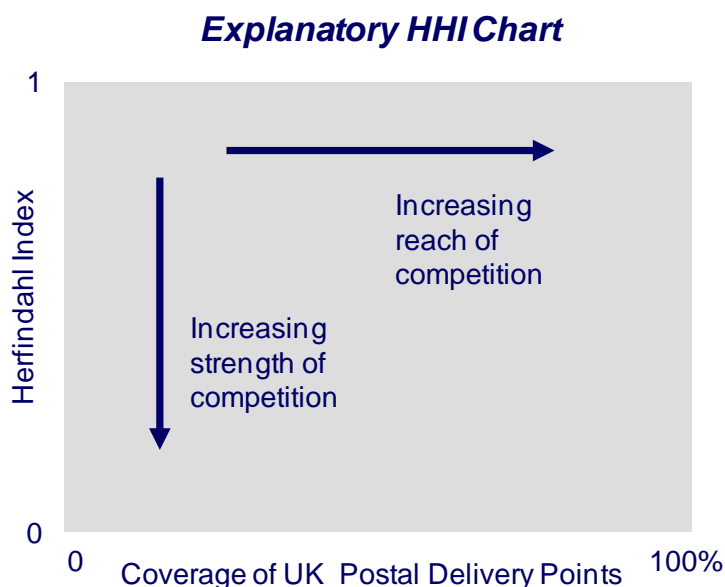


45. The interpretation of the charts was discussed in our June 2010 response<sup>46</sup> encapsulated in figure A5 below.

<sup>45</sup> Note that we cannot compute the shares of Virgin Media precisely.



Figure A5



46. At a given number of households/delivery points, the (vertical) fall in the HHI reflects lower concentration. For a given HHI value, the higher the (horizontal) cumulative distribution of households/delivery points shows how widely that given level of competition has reached.

47. What is most noticeable in these charts is that the level of household coverage at which concentration becomes significant – the point of inflection in the chart - has shifted sharply upward from around 70% back in March 2010 to around 80-85% by September 2012. There is a slight upward movement for some highly competitive exchanges in September 2012 which reflects the exit of Orange. It is also noticeable that the HHI in Market 1 has fallen sharply reflecting entry by TalkTalk.

48. The relevant values are also shown in Table A2.

TABLE A2: UPDATED HHI FOR THE THREE GEOGRAPHIC MARKETS\*

	Market 1		Market 2		Market 3	
	HHI	Standard dev	HHI	Standard dev	HHI	Standard dev
Sept 07	0.98	0.07	0.91	0.13	0.43	0.23
Sept 08	0.98	0.07	0.83	0.18	0.34	0.14
Sept 09	0.98	0.06	0.78	0.20	0.31	0.12
Sept 10	0.97	0.06	0.64	0.17	0.29	0.09
Sept 11	0.96	0.08	0.53	0.15	0.29	0.06
Sept 12	0.85	0.17	0.45	0.12	0.28	0.05

\*Note that the values in this table do not align with those supplied by BT in June 2010 as (i) the definitions of the markets have changed with a different set of exchanges, particularly in Market 2 and (ii) the treatment of AOL and Tiscali has changed with these now fully incorporated into TalkTalk. The figures presented above are however correct as a 'backward' static assessment based on December 2010 definitions of exchanges and market structure of POs.

<sup>46</sup> Figure 9 of BT's June 2010 WBA Market Review response  
<http://www.btplc.com/Thegroup/RegulatoryandPublicaffairs/Consultativeresponses/Ofcom/2010/Wholesalebrobandaccessmarkets/wholesalebroadbandaccessmarkets.pdf>

49. SPC Network have reviewed these numbers and compared these results with the equivalent retail mobile market (on a total network basis) and their key comparator chart is shown below in Figure A6.

[X Figure A6 redacted]

50. X

**(iv) The econometric modelling**

51. We are currently updating the key analyses of share impacts of both the number and specific identity of POs on BT and between POs and we hope to provide this report to Ofcom early in 2013.

52. In the meantime, we have made a preliminary examination of entry in Market 2 in particular in the 18 months or so since the December 2010 Statement. To appreciate the movements of exchanges over time, Table A3 (at the end of this annex) provides a 'mapping' of where exchanges were classified in June 2010 and the latest information we have available as at September 2012.

53. According to our information as shown in Table A3, the X<sup>47</sup> exchanges were composed of:

- X
- X
- X.

54. Within the X exchange set of BT+1 PO, by beginning of October 2012:

- X
- X
- X
- X

55. What this implies, is that just over half way into a market review period, one third of the regulated set of exchanges in Market 2 are already fully competitive and another third will likely be fully competitive by the end of the period just based on a share threshold alone.

56. X<sup>48</sup>.

[X Figure A7 redacted]

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<sup>47</sup> X  
<sup>48</sup> X

57. ✂

58. ✂

[✂ Figure A8 redacted]

59. Figure A9 below shows that even in this comparatively short time period, BT's share loss has been dramatic with ✂ of exchanges remaining with a share above ✂<sup>49</sup>. Figure A10 shows the approximate share loss looking at groups of exchanges according to the month of entry. In general, earlier exchanges are associated with higher share loss although as might be expected, there is some variation here but in general, the longer the period of unbundling the greater the loss of share to BT.

[✂ Figure A9 redacted]

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<sup>49</sup> There will be various reasons why some particular exchanges have high BT share which are for example related to socio-economic factors and which do not imply that BT has market share i.e. there is a certain degree of statistical randomness associated with shares.

[X Figure A10 redacted]

60. X.

61. Even though these are highly averaged results, they seem to be broadly compatible with our findings in the last market review. To take just one piece of evidence from the econometric analysis<sup>50</sup>, we found that X entering an exchange had a material impact on BT's share<sup>51</sup>. Just taking an average in the range of X share loss as a central estimate of the impact of an LLU on BT per annum, within three years that would erode roughly X market share. Given that the loss of market share will likely not be 'linear' over time we feel that the slightly lower estimates from the X exchanges above is of the same order roughly as our previous analysis<sup>52</sup>.

62. Ofcom<sup>53</sup> expressed reservations about linking policy to specific POs. Whilst as a general rule this is understandable absent specific evidence, we think it would be perfectly reasonable for Ofcom to take account of the specific roll out of specific POs in this context on the basis of established and known plans of LLU entry and the consequential likely impact on BT from firm empirical evidence. There is nothing that we are aware of for Ofcom to be so cautious to put to one side what is compelling evidence of inter-CP competition and which collectively adds up to 'aggregate trends'.

#### (v) Economic literature

63. Ofcom<sup>54</sup> also cast doubt on the relevance of the economic literature on evidence of competitor presence and the link to effective competition. We therefore invited SPC Network to re-consider this issue and their report cites the most recent literature on this framework which coincidentally actually relates to broadband demand in the USA<sup>55</sup>. As discussed in the SPC Network Report, the conclusion strongly supports our findings in 2010.

#### IV CONCLUDING REMARKS

64. As we highlighted above, we do not see the bulk of differences between BT and Ofcom as being primarily of a technical nature but more one of policy differences. In essence, we feel vindicated in our assertion that Ofcom was being too cautious on the evidence of effective competition from a wide variety of evidence and combined with an equally cautious approach to LLU rollout, has materially under-forecast the extent of competition in Market 2 as well in fact as Market 1.

65. The EC Guidelines state the following – '*market definition is not a mechanical or abstract process but requires an analysis of past market behaviour and an overall understanding of the mechanics of a given sector*'<sup>56</sup>. On the use of market shares, the Commission is clear that a high market share alone is not sufficient to establish the possession of SMP and that '*it is important to stress*

<sup>50</sup> See Table T1 of BT's October 2010 WBA market review response  
<http://www.btplc.com/Thegroup/RegulatoryandPublicaffairs/Consultativeresponses/Ofcom/2010/Wholesalebroadbandaccessmarkets2/index.htm>

<sup>51</sup> This was using a model structure which was suggested by Professor Verboven.

<sup>52</sup> X

<sup>53</sup> Paragraph 3.137 of the WBA Final Statement (December 2010)

<sup>54</sup> See Ofcom's August 2010 Second WBA Consultation

<sup>55</sup> Xiao, M. and Orazem, P.F. (2011) 'Does the fourth entrant make any difference: Entry and competition in the early U.S. Broadband Market' in International Journal of Industrial Organisation No.29 547-561.

<sup>56</sup> EC 202 Guidelines on market analysis and assessment of SMP (2002/C 165/03).

*that the existence of a dominant position cannot be established on the sole basis of large market shares’.*

66. The Commission<sup>57</sup> lists a range of potential factors indicating market power noting that - ‘A dominant position can derive from a combination of the above criteria which taken separately may not be determinative’. By the same token, we argue that an assessment of all the criteria and in particular the cross exchange spillovers of bundled services and the strength of indirect constraints will link much of Market 2 to Market 3.
67. Our position therefore is that Ofcom should not take each piece of evidence concerning market power in turn and simply state that ‘its effect will be reflected in a (narrow) market share’ - but rather look at all the factors in conjunction on a cumulative basis as the Commission has indicated should be done. It was, and remains our firm view, that the 50% share threshold set in 2010 was not needed at all (or it could indeed have been set much higher) and it is now certainly not appropriate.
68. On the contrary, Ofcom<sup>58</sup> could reasonably have drawn clear inferences that the presence of any two of Virgin Media, Sky or TalkTalk would in any exchange be sufficient for competition to be effective within a three year market review period.

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<sup>57</sup> Paragraph 78 of the EC 202 Guidelines on market analysis and assessment of SMP (2002/C 165/03)

<sup>58</sup> Paragraphs 3.137 and 3.147 of the WBA Final Statement (December 2010)

[&lt; Table A3 redacted]

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