Wholesale Broadband Access: Geographic Market Definitions in the UK

Prepared for

BT plc

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1. Introduction

1. Strategy and Policy Consultants Network Ltd (SPC Network) has been asked by BT Group Regulatory Affairs to assess whether the geographic market definitions proposed by Ofcom in the 2010 Wholesale Broadband Access market review[1] are consistent with market developments since the last market review in 2008[2].
2. In compiling this report, SPC Network has relied on exchange level market share data provided by BT and has not sought any independent verification of the data. BT provided evidence based on the 'original' (2008) exchanges and the 'new' (2010) exchanges in the three geographic markets[3]. We have, however, sourced external data for less granular market analysis.
3. This paper is structured as follows: Section 2 briefly reviews the geographic market definitions and findings of SMP in the 2008 statement on the WBA market review (Statement) and the 2010 consultation document (Consultation Document) and how competitive conditions have changed since 2008 with a particular focus on current Market 2. Section 3 examines the market structure, pricing behaviour of suppliers and the switching behaviour of consumers and how these might affect the geographic market definitions adopted by Ofcom. Section 4 discusses what we consider to be possible unintended consequences of Ofcom's new geographic market definitions in the light of market developments. Section 5 concludes.
4. The data provided to us suggest that competitive conditions where BT plus two of Carphone Warehouse (CPW)[4], Sky, and Virgin Media are present are significantly different to where only one of these three firms compete BT[5]. We now consider that there is no longer a justification for dividing the UK, outside the Hull area, into three geographic markets. This conclusion is based on:
    - Where BT and two other "Tier A" operators are present in an exchange area, BT's market share falls below the 40% threshold at which SMP is presumed;
    - Spill over effects mean that pricing by competing operators may be as competitive where there are only two present as where all three are present;
    - Churn rates are as high in the current Market 2 as in the current Market 3.
5. A problem with the definition of the proposed Markets 2 in the Consultation Document is that this market will include exchange areas where BT has a market share above the 40% SMP threshold and exchange areas where BT's market share is below that threshold. Give that a 40% market share is the threshold at which the burden of proof about SMP is reversed, the proposed Market 2 is likely to have heterogeneous competitive conditions within the same geographic area.
6. Our analysis suggests that there are probably two geographic markets (outside Hull). One market would include exchange areas where BT alone or BT plus one other Tier A operator are present. The other market would consist of exchanges where BT plus at least two other Tier A operators are present. Entry on the first

[1] *Review of the wholesale broadband access markets Consultation on market definition, market power determinations and remedies* 23rd March 2010

[2] *Review of the wholesale broadband access markets Final explanatory statement and notification* 21st May 2008

[3] We understand from BT that there are likely to be some differences with Ofcom data due to information on Virgin Media's network, but these are not thought to be material to the conclusions.

[4] References to CPW Includes all their retail brands.

[5] From here on in we will refer to the four largest retail broadband providers (BT, CPW, Sky and Virgin Media) as "Tier A.

of these markets by further competitors may result in a movement of exchanges to the second market.

2. Background

2.1 A Brief Review of the 2008 Statement and the 2010 Review

7. In May 2008 Ofcom published its final statement on its review of WBA markets following a lengthy consultation process which began formally in November 2006. Outside the Hull area, Ofcom found that there were three geographic markets defined as follows (Statement para. 3.117):

- Market 1 - those geographic areas covered by exchanges where BT is the only operator;
- Market 2 - those geographic areas covered by exchanges where there are 2 or 3 Principal Operators present (actual or forecast) AND exchanges where there are forecast to be 4 or more Principal Operators but where the exchange serves less than 10,000 premises; and
- Market 3 - those geographic areas covered by exchanges where there are currently 4 or more Principal Operators present AND exchanges where there are forecast to be 4 or more Principal Operators but where the exchange serves 10,000 or more premises.

8. Ofcom defined a Principal Operator as "any operator that is expected to provide a material constraint in the market, either directly or indirectly" (Statement, para 3.37). These included BT, Virgin Media and six un-named LLU Operators.
9. BT was found to have SMP in Markets 1 and 2 and no operator was found to have SMP in Market 3. The finding of SMP in both markets was on the basis of

- market growth and market shares;
- future potential market shares;
- barriers to entry and expansion;
- economies of scale and scope; and
- countervailing buying power. (Statement para 4.19)

10. As a result of the finding of SMP the following obligations were imposed on BT in both Markets 1 & 2:

- Requirement to provide Network Access on reasonable request
- Requirement not to unduly discriminate
- Requirement to publish a reference offer
- Requirement to notify charges, terms and conditions
- Transparency as to quality of service
- Requirement to notify technical information
- Requirement to account separately

11. In the 2010 market review Ofcom has slightly altered the market definition to remove the number of premises qualification. The market definition is:

- Market 1: exchanges where only BT is present (14.2% of premises);
- Market 2: exchanges with 2 or 3 Principal Operators are present (13.8% of premises); and
- Market 3: exchanges with 4 or more Principal Operators present or with 4 or more forecast (71.3% of premises).

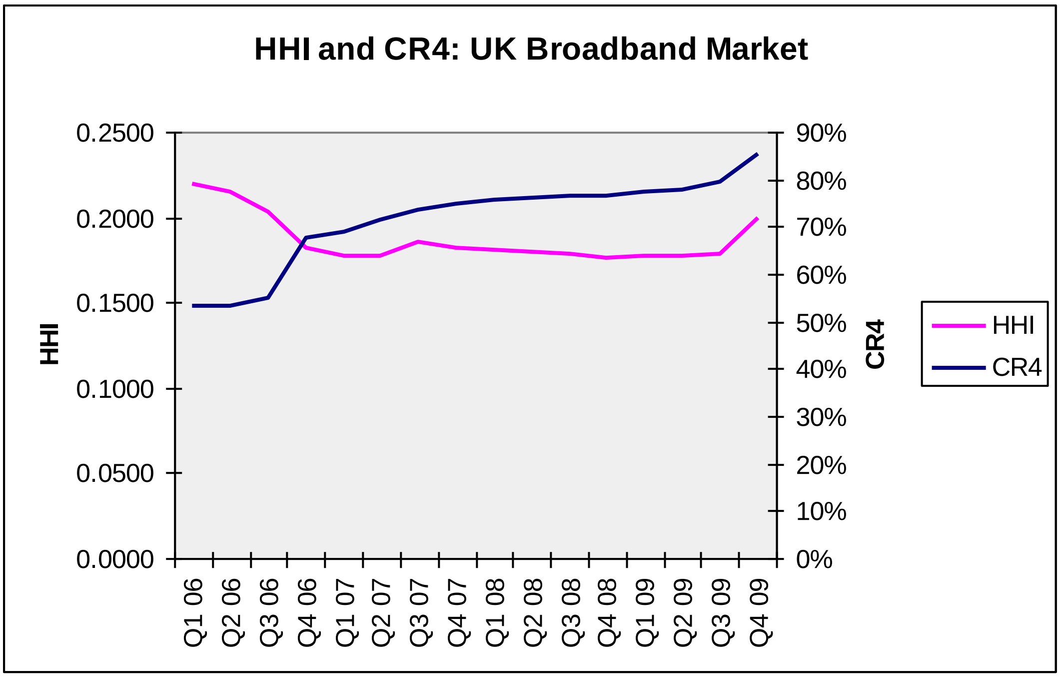
12. Ofcom is again proposing to find BT to have SMP in Markets 1 and 2 and that no firm has SMP in Market 3 and Ofcom is proposing additional regulation on BT in Markets 1 and 2.

2.2 Market Developments since the 2008 Review

13. Over the past four years, the number of retail broadband subscribers has increased from 11m to 18m[6], giving a penetration rate of around 75% of households. Perhaps unsurprisingly, the retail broadband market has seen some consolidation over the same period. Figure 1 shows the development of the Herfindahl-Hirschman Index (HHI) and four firm Competition Ratio (CR4) over the period 2006 – 2009[7].

14. Both the HHI and CR4 are measures of market concentration. The CR4 measures the total market share of the four largest firms in the market, whilst the HHI measures the distribution of market shares between all players in the market and is calculated by summing the squares of each firm's market share and is shown either on a scale of 0 to 10,000 or from 0 to 1 to four decimal places (the method adopted here). The lower the HHI, the less concentrated the market.

Figure 1: HHI and CR4



Source: Informa, Author's calculation

15. The HHI of the retail market showed a sharp decline in 2006 and then remained fairly steady until the final quarter of 2009 when CPW's acquisition of Tiscali becomes visible in the figures. The CR4 shows a sharp increase in the latter half of 2006 (CPW's acquisition of AOL UK) and then increased steadily, as Sky's position grew in the market, until the sharper increase at the end of 2009. At the end of 2009, some 85% of broadband retail customers were supplied by one of the "Tier A" broadband suppliers.

16. A characteristic of the four largest firms in the market is that they are all substantial firms in their own right with a presence outside the broadband

[6] Source: Informa World Broadband Information Service
[7] Source: Informa World Broadband Information Service, Author's calculation

market. Table 1 shows some key data for the seven largest firms in the broadband market. Orange and O2, although relatively small at the retail level, are also part of large firms with offerings in the UK beyond fixed broadband access.

Table 1: Size of Principal Operators

Company	Market Capitalisation (billion) [8]	Unbundled Exchanges[9]	Network Coverage (Million premises)[10]	Broadband Retail Customers (Million)[11]	Equity Beta[12]
BSkyB	£10.47	1,190	18.6	2.4	0.78
BT	£10.36		~28.0	5.0	1.08
Cable & Wireless	£1.57	802	14.6	n/a	0.86
Carphone Warehouse	£0.9	1,723	21.9	4.1	1.04
O2 (Telefonica)	€71.76	1,236	18.1	0.59	0.59
Orange (France Telecom	€42.6	944	18.1	0.84	0.35
Virgin Media	$5.53		13.2	4.1	1. 75

17. The table shows that Sky is now the largest domestic firm by market capitalisation, though BT has the widest availability and largest customer base. However, its principal competitors are all large companies in their own right with substantial market capitalisation and shares of the retail broadband market.

18. The equity beta is a measure of the volatility of an individual firm's share price relative to the national equity market as a whole. A Beta of less than 1.0 indicates that the firm's share price is less volatile than the market, whilst a Beta above 1.0 indicates it is more volatile. With the exception of Virgin Media, the Beta of all firms is less than, or fractionally above, 1.0 indicating that equity investors consider the companies to be financially stable and they do not expect substantial swings relative to equity prices as a whole.

19. Since the Statement, there has been one significant acquisition, that of Tiscali's UK operations by CPW which, following its's earlier acquisition of AOL, created the second largest retailer of broadband in the UK. Tiscali added approx. 1.2 million customers to CPW.

20. Another development since the last market review is the development of 'outsourcing' contracts. ✂

    Such contracts are usually subject to a competitive bid process; are for a fixed tem with break clauses; and the client can then take the network back in-house at the end of the contract or at other times determined by the contract conditions.

21. Whilst this development does not affect competition at the retail level, it might be seen as affecting wholesale competition as, in this case, Orange is removed from the WBA market, at least for the duration of the contract.

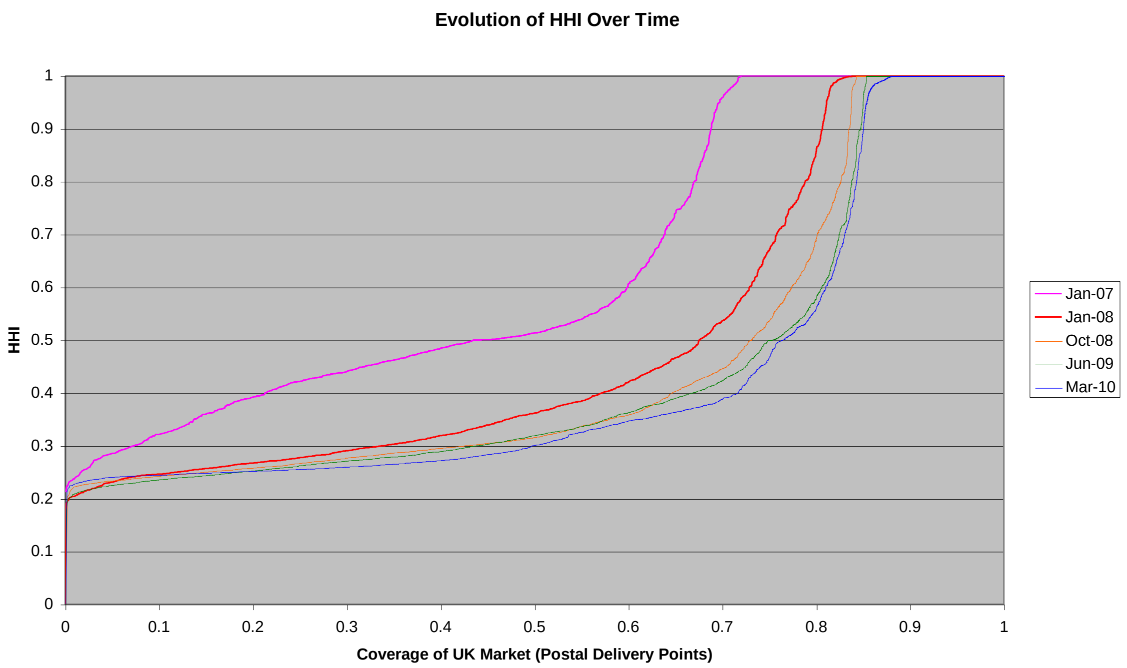
22. The effect of acquisitions/mergers on a market can either improve or make worse consumer outcomes depending on whether they allow a firm to exercise market power or gain efficiencies, for example economies of scale and scope, which can be passed on to consumers. For this reasons, competition authorities generally examine mergers on a case-by-case basis.

[8] All Market Capitalisation data source: FT.com/markets 14th May 2010.
[9] Source: www.samknows.com
[10] Source: www.samknows.com except BT and Virgin Media
[11] Source: Informa World Broadband Information Service
[12] Source: FT.com/markets 14th May 2010. Beta's are calculated against relevant national Index, e.g. FT All Share.

2.3 Extent & Reach of Competition

23. BT has provided us with analysis showing the Hirfindahl-Herschmann Index (HHI) at four time periods (Jan. 2007, Jan. 2008, Oct 2008, June 2009 and March 2010) for each postal delivery point in the UK. This analysis shows that in Jan 2007, the HHI was 0.5 at approx. 45% of postal delivery points and that by March 2010 the same degree of concentration was at over 75% and that the HHI at the 45th percentile was approx. 0.28.

Figure 2: Development of HHI Over Time



Source: BT

24. Although the HHI is strictly speaking a measure of market concentration rather than competitiveness, it can be regarded as a useful proxy for competition in the market. BT's calculation of the HHI suggests that competition has increased in both reach and intensity and that the greatest gains in competition were in the 12 months between Jan. 2007 and Jan. 2008.

25. BT has calculated the mean HHI in each of the three Markets and their dispersion (standard deviation) at the five time periods, which we have reproduced in Table 2 below. Note that the mean HHI for markets 3 and 2 in Jan. 2007 and March 2010 were 0.55 and 0.53 respectively. On average, therefore, Market 2 was less concentrated in March 2010 than Market 3 was in January 2007.

Table 2 : Development of Market Concentration

	Market 1		Market 2		Market 3	
	Mean HHI	Standard Deviation	Mean HHI	Standard Deviation	Mean HHI	Standard Deviation
Jan 2007	0.99	0.06	0.83	0.22	0.55	0.22
Jan 2008	0.99	0.06	0.70	0.20	0.35	0.13
Oct 2008	0.99	0.05	0.63	0.17	0.31	0.08
June 2009	0.99	0.06	0.55	0.15	0.31	0.07
March 2010	0.99	0.06	0.53	0.14	0.31	0.06

Source: BT

26. In January 2007 current Market 2 was closer to current Market 1 measured by the HHI than it was to current Market 3. However, whereas current Market 1 has remained almost monopolistic, concentration in current Market 2 has reduced to the extent that its HHI is now below the level current Market 3 was at in January 2007.

27. Concentration in current Market 3 fell substantially between Jan 2007 and Jan 2008 and has since levelled off. Concentration in current Market 2 continues to fall.

28. BT has calculated the HHI in the presence of one, two or all three of the other Tier A ISPs as at March 2010 after the integration of Tiscali by CPW. This shows that where two Tier A firms other than BT are present the HHI is now 0.38, which is approximately the same as the HHI in Market 3 when the 2008 Statement was issued.

29. The implication of the above analysis is that in Market 2 barriers to entry have substantially reduced, especially relative to Market 1 which has allowed the continued development of a competitive WBA market.

2.4 Forward Looking Analysis

30. Various operators have announced plans to roll out their networks beyond their current footprint. In a letter to Ofcom dated 30th Nov. 2009, BT highlighted a statement made by Carphone Warehouse to the Parliamentary Committee on Business, Innovation and Skills at which their representative said that by 2010 Carphone Warehouse will cover about 90% of the country with its own network based on LLU. In its presentation to investors and analysts of its first half results for 2009, CPW showed that they have an £10 million capital expenditure budget for the second half of the financial year and that they will be extending their network to 2,000 exchanges[13] According to BT, this will extend the CPW network to include all of today's Markets 2 and 3 and 130 exchanges in Market 1.

31. BT also drew Ofcom's attention to a statement by the Chief Executive of Virgin Media that it plans to extend its network out to a further 500,000 homes.

32. BT provided us with some Powerpoint slides showing the output from their LLU entry model which shows that profitable entry is feasible if an operator can acquire 20% of the lines in any exchange. On the basis of this model, BT has predicted that it continues to be profitable for LLUOs to build out to 2,500 exchanges, which is line with the public pronouncements stated above.

33. Whether the investment of competitive Communications Providers is efficient remains to be seen. However, we can assume from the fact of the investments that the firms in question have an *ex ante* expectation of profitability. We can

[13] Carphone Warehouse plc *Interim Results to September 2009* Presentation 27th November 2009. Available at ww.cpwplc.com

therefore assume an expectation that efficient investment extends beyond the current Market 3, into current Market 2 and possibly even into part of current Market 1.

3. Structure, Conduct and Market Definition

34. Ofcom's definition of markets in the Consultation Document is based on the number of suppliers in each local exchange area. BT has asked us to consider whether the "mechanistic" approach adopted in the 2008 Decision is still appropriate.

35. Market definition is not an end in its own right. In the case of geographic market definition, its purpose is to identify an area over which one or more operators may be able to behave independently of competitors, customers and consumers[14]. Market definition is primarily based on supply-side and demand-side substitution in the event of a Small but Significant Non-transitory Increase in Price (SSNIP)[15]. However, a common pricing constraint can be considered, even if demand-side and supply-side substitution are not present. According to Ofcom, failure to consider the existence of a common pricing constraint could lead to unduly narrow markets being defined (Statement para. 3.17).

36. In the Statement (para. 3.18) Ofcom refers to the European Commission's SMP Guidelines which state that a geographic market can be an area in which competitive conditions are similar or sufficiently homogeneous to distinguish one area from its neighbour. It was primarily on this basis that Ofcom defined the three geographic markets.

37. The question to be addressed, therefore, is whether proposed Markets 1, 2 and 3 remain distinct from each other such they can be said to be separate geographic markets.

38. Current Market 1 is clearly distinct from the other two. With a HHI of 0.99 and very little change since 2007, and with a churn rate less than half that of the other markets (see Table 3 below), it displays quite different conditions from either Market 2 or 3. It is of course possible that some exchange areas that were in Market 1 could be reclassified as belonging to Market 2, but on the whole the Market is distinct. We turn therefore to Markets 2 and 3.

3.1 How Much Competition is Enough?

39. We start by addressing how much competition is enough to protect consumers from harm by the dominant firm. This was explored in a seminal and much cited article by Timothy Bresnahan and Peter Reiss in 1991[16]. They develop a model of market entry which estimates how many competitors are needed, given the market size (number of people) to reduce profits from the monopoly level to zero, i.e. where price equals marginal cost. The model is tested using data from various retail service markets (doctors, dentists, etc.) in US towns.

40. Bresnahan and Reiss conlcude:

"Our econometric estimates of entry thresholds for five different retail and professional industries confirm our initial hypothesis that post entry competition increases at a rate that decreases with the number of incumbents….<u>most of the increase in competition comes with the entry of the second and third firm.</u> These results initially surprised us. We expected to find entry threshold ratios that declined more gradually. It instead appears that the competitive effects of entry occurs rapidly". (our emphasis)

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[14] Statement para. 3.6

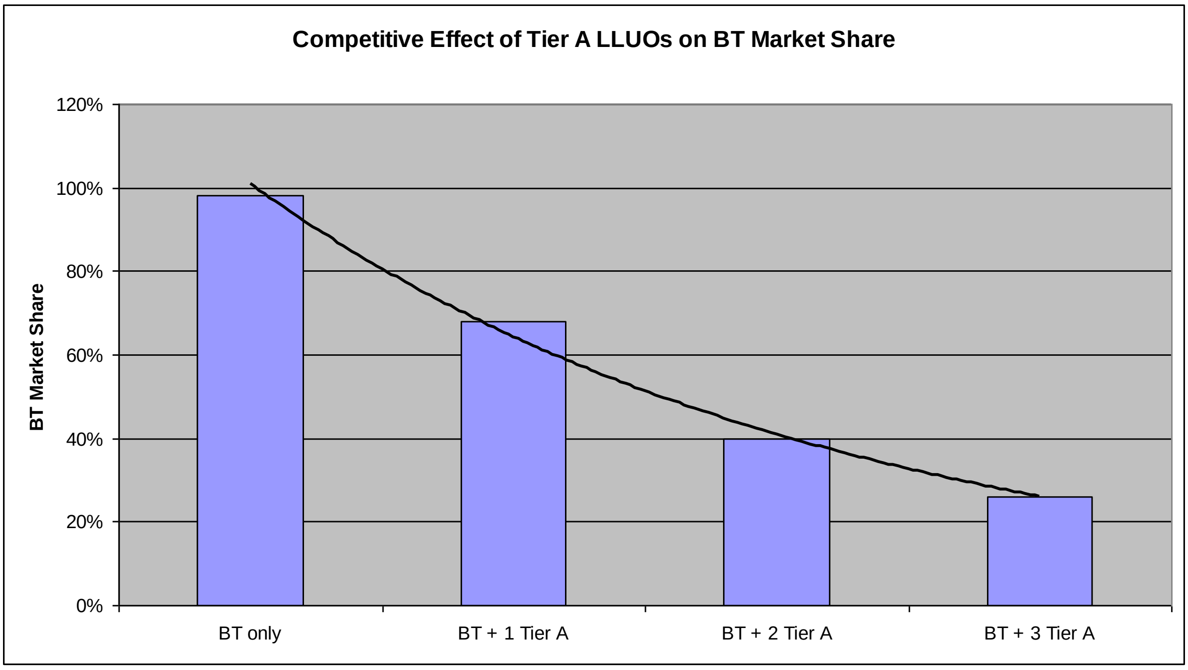
[15] The Hypothetical Monopolist Test (HMT)

[16] Bresnahan, T and Reiss, P (1991) *<u>Entry and Competition in Concentrated Markets</u>* The Journal of Political Economy, Vol. 99 No. 5 (Oct. 1991) pp 977 - 1009

41. Bresnahan and Reiss do not refer to entry into an existing monopoly market, but to entry where there is no existing supplier. Thus their reference to "entry by the second or third firm" refers to the presence of two or three suppliers in the market in total.

42. We have plotted the decline in BT's market share against the presence of the three other Tier A retail suppliers (Figure 3)[17]. With just one large entrant in the market, BT still has a market share above the threshold at which SMP can be assumed. However, once a second major operator is present, its share falls to 40%. By the time all three major competitors are present BT's share is below its average market share across the whole UK. As the trend line indicates, the rate at which BT's market share declines also declines.

Figure 3: Decline in BT Market Share with Competitive Entry



43. This simple analysis of BT's market share and the number of operators tends to support Bresnahan and Reiss' findings. Most of the increase in competition comes with the presence of the third firm (i.e. the second entrant) which brings down BT's market share below the SMP level.

44. We understand that BT has also commissioned Prof John Nankervis of Essex University to undertake an econometric analysis of the effect of the presence of other "Tier A" operators on the growth of BT's subscriber base, and that this analysis has come to a similar conclusion.

3.2 Pricing Strategies

45. Basic economic theory suggests that in competitive markets prices are driven down to marginal cost and that all firms are price takers, rather than price setters. BT's analysis of retail broadband prices shows that ISPs, other than BT, operate geographically disaggregated prices, offering a lower price where they use LLU (or its own network in the case of Virgin Media) and a higher price where they use a wholesale bitstream input from BT.

46. The difference between on-net and off-net prices can be substantial. For example, our review of company websites shows that CPW charges a premium

[17] The figures in this chart are not affected by BT providing services to Orange.

of £11.49 per month for access outside its own network footprint and O2 charge a premium of £9.80[18]. The information BT has provided suggests that Virgin Media charges the lowest premium at £3.50 per month, though we have not been able to verify this.

47. We expect that each broadband ISP's on-net price is driven by market forces in the most competitive exchange areas of Market 3. Data provided by BT suggest that there are 489 exchanges covering 35.6% of households where at least three major and three smaller operators have unbundled, creating a highly competitive market in which, other things being equal, we might expect prices to be set at the competitive level, i.e. marginal cost.

48. However, as competitive ISPs do not set prices according to market conditions in each local exchange, customers connected to less competitive exchanges are likely to benefit from a "spill over effect", that is a form of positive externality in which these consumers benefit from the level of competition in the most competitive area.

49. BT data show that all Principal Operators have some unbundled exchanges within Market 2, or its own cable in the case of Virgin Media. However, these operators set the same price in Market 2 exchanges as they do in Market 3, and so it would appear that pricing behaviour, and therefore competitive conditions, is homogeneous in the two markets.

50. A profit maximising monopolist would be expected to restrict the quantity supplied to a level where the marginal revenue from the last unit sold equals the marginal cost, whereas a firm in a perfectly competitive market would be forced by competitive pressures to set marginal price equal to marginal cost. The monopoly price would be higher than the marginal cost.

51. We would expect that in Market 3, prices are set close to marginal cost given the level of competition. If the competitive conditions in Market 2 were substantially different then BT, as the SMP operator in that market, would be able to set a price between the competitive price and the monopoly price. However, as firms set the same price in Market 2 as they do in Market 3, then all firms' freedom to set price is constrained by competitive conditions in Market 3 rather than in Market 2. If any firm attempted to set a price above marginal cost in Market 2, it would be unlikely to be able to do so profitably as consumers would switch to an alternative supplier.

52. This suggests that at the retail level, and therefore by extension at the wholesale level, no firm is more able to price independently of its competitors, customers and consumers in Market 2 than it is in Market 3, implying homogeneity of competitive conditions across the two markets.

3.3 Consumer Behaviour

53. Waterson (2003)[19] states that "industrial economists need to consider much more closely the behaviour of consumers in modelling particular cases and not just the behaviour of firms". Consumer behaviour refers largely to searching and switching behaviour which can feed through to lower prices for consumers. Waterson sets as a proposition that the higher the proportion of active switchers, all other things being equal, the greater the proportion of low cost firms.

54. Based on Waterson's analysis, the level of competition may be measured by the rate of "churn" in each of the three Markets. We would expect markets with

[18] Source: company websites 14/5/10 and 8/12/09.

[19] Waterson, M *The role of consumes in competition and competition policy* International Journal of Industrial Organisation, 21 (2003) 129 - 150

similar competitive conditions to have similar churn rates. Table 3 below shows BT Retail's churn for the period Q3 2008 to Q3 2009.

Table 3 : BT Retail Broadband Churn Rates 2008 – 2009 ✂

55. It is clear from the above data that proportionately more than twice as many consumers switched away from BT in Markets 2 and 3 than in Market 1 and that the level of churn in Markets 2 and 3 are similar.

3.4 Conclusion on Geographic Market Definition

56. Our concern in this paper is whether the competitive conditions in areas that comply with Ofcom's new definition of Markets 2 and 3 are sufficiently heterogeneous that they constitute separate markets. The evidence is that:

    - Where BT and two other "Tier A" operators are present in an exchange area, BT's market share falls below the 40% threshold at which SMP is presumed;

    - Spill over effects mean that pricing by competing operators may be as competitive where there are only two present as where all three are present;

- Consumer switching, as shown in the churn rates, is as high in the current Market 2 as in the current Market 3;

    We therefore conclude that market structure, and supplier and consumer conduct across the two markets mean that there are serious questions as to whether the approach adopted by Ofcom properly defines the geographic market boundaries. Market 2 appears to be too broadly defined, and Market 3 to be too narrowly defined.

57. A more realistic divide between geographic markets occurs between where there is only BT and <u>one</u> other Tier A operator and where BT and at least <u>two</u> other Tier A operators are present. With the potential for future entry into exchange areas where only one firm currently competes with BT, exchanges in the first market may move to the second market over time.

58. By contrast if the geographic market definitions proposed in the Consultation Document are implemented, the new market two will include exchange areas where BT on average has a market share below the SMP threshold of 40%, and so where it would be presumed not to have SMP, and exchange areas where BT's share is greater than 40%. The proposed Market 2 would therefore include within it areas where competitive conditions are heterogeneous.

4. Unintended Consequences

59. We now consider potential unintended consequences on a market definition approach based only on the basis of the number of Principal Operators present in a given exchange area.

60. Suppose that in a given exchange area there were four Principal Operators, placing the exchange area in Market 3 where no firm has SMP. Suppose now that two of the four firms merge, reducing the number of Principal Operators to three placing the exchange area in Market 2. Would competitive conditions in this exchange area have changed so substantially that it warrants being moved from one market to another?

61. The behaviour analysis of the markets discussed above, shows that LLUOs tend to have two prices: one for on-net and one for off-net areas. The principal way in which the benefits of competition is transmitted to consumers, through lower prices, is therefore unlikely to be changed by such a merger, as the merged entity and the other operators will not respond to the merger by raising prices. There will be no change in whether the exchange area is on- or off-net.

62. Further, consumers are no less likely to churn suppliers just because of the acquisition. As shown in Table 3 above, BT's churn rates are actually marginally higher in the current Market 2 than in Market 3. Consumer switching behaviour is a key determinant of competitive conditions as a higher proportion of active consumers leads to a higher proportion of low cost firms[20].

63. The reduction in the number of Principal Operators is therefore unlikely to change competitive conditions sufficiently to make pre and post merger conditions so heterogeneous that the exchange area changes market.

64. Finally, if the exchange was competitive and a merger would change the competitive conditions so much that the exchange area changes market, then there would be a case for an investigation of the merger by the competition authority. The competition authority could determine that the merger could only proceed subject to disposal of assets in exchange areas where there would be a substantial lessening of competition.

[20] See Waterson (2003) op cit

5. Summary and Recommendation

65. Our brief analysis above indicates that competition in the WBA market continues to intensify in both breadth and depth. At the retail level, there has been some consolidation, but there are now four fairly equal competitors[21]. These four firms are all large and operate in several parts of the market and offer consumers a range of related products. BT's analysis of HHI by postal delivery point suggests that competition is becoming both more pervasive through the population and deeper. Principal Operators, other than BT, have extended their network reach since the Statement and they price their retail offering according to whether they have unbundled an exchange or not. This disaggregated pricing places a constraint on all other firms' prices which is set by pricing in the competitive Market 3. Taking the CPW and Virgin Media statements about future build at face value, we would expect the LLU and cable footprint to expand yet further.

66. Economic literature shows that in many markets the presence of three competing firms is enough to reduce profits to the competitive level. Our analysis shows that where there are three firms in an exchange area, BT's market share is, on average, less than the 40% threshold at which SMP may be presumed. Pricing and consumer switching behaviour also indicate that a three supplier market is as competitive as a four or more supplier market.

67. In our view, therefore, a more realistic dividing line between geographic markets in the UK, outside the Hull area, would be the presence of BT only or BT plus one of the "Tier A" companies and BT plus two or more Tier A operators. The potential for entry into the first market by LLU operators and Virgin Media may result in some of these exchange areas migrating to the second market.

68. We are also concerned that the current and proposed geographic market definitions may lead to unintended consequences, with exchange areas moving from the proposed Market 3 to Market 2 and thus regulation being imposed where once it was not, as a result of merger and acquisition activity. The proper way for any remedies to be applied would be by using the principles of a merger review to determine whether there was likely to be a substantial lessening of competition rather than through an ex ante market review.

[21] The potential position of O2 should not be ignored, It is part of a large undertaking and has the potential in due course to become a major player in the market.