Review of Wholesale Broadband Access Markets

Second Consultation August 2010

Note on the effect of entry of competing LLU CPs on BT Wholesale's service share.

Report prepared for BT

Non-confidential version

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1. Introduction

I have been commissioned by BT to examine the issue of the impact of entry on BT's wholesale service share and specifically the likely speed of reduction in share when a CP enters an exchange where another CP is also present.

I note that in the second consultation, Ofcom [3.27] also raises this issue. This report therefore complements my previous work and in fact uses a combination of the functional forms in my first submission (which employed dummy variables where specific CPs had presence) and the second submission attached to this report (which uses market share values rather than penetration values based on total delivery points).

In this short note I estimate a model for BT wholesale's service share and make estimates of the effect of competition on the growth rate in this share. I use the evidence from the comparatively recent past of exchanges where entry has occurred by two LLU CPs (✂and ✂) as a guide to what is likely to happen in exchanges in the new Market 2 classification.

2. Model Structure

I consider a model for BT's service share which is defined as

$$SH_{it}^{BT} = y_{it}^{BT} / y_{it}^{ALL}$$

where

y_{it}^{ALL} = number of BT Wholesale and LLU live circuits in exchange *i* at time *t* plus the number of ✂subscribers in exchange *i* in June 2009.

and

y_{it}^{BT} = number of BT Wholesale lines in exchange i at time t.

This measure does not take account of migration but calculated in this way using data for March 2010 it does give a reasonable approximation to the data for June 2010 (without migration) when calculated for the 660 exchanges in the proposed new market 2 and depicted in Figure A7.6 in the second Ofcom consultation.

As noted above, the model in this report is estimated using data on exchanges in the current Markets 2 and 3. The historical effect of competition from ✂on BT's service share in these exchanges is likely to be a very useful guide to the effect on BT's share in the exchanges in the proposed new Market 2.

The model I consider has essentially the same explanatory variables as those in equation (6) in the original June 2010 Report but I now allow for individual exchange growth effects, which Professor Verboven advocated, as well as exchange level effects. Given the gradual decline in BT's service share in Markets 2 and 3 over the period, an S-shaped diffusion model, as in the June 2010 Report, is not appropriate for this exercise and a plausible specification is a linear model given by: ✂

with

$_t$✂ = 1 if ✂is operating in exchange i at time t, zero otherwise.

✂$_t$ = 1 if ✂is operating in exchange i at time t, zero otherwise.

TR_t = Time trend (in years)

The model above allows for individual level (α_i^0) and growth effects (β_i^0) in each exchange and is estimated over the period from September 2008 to March 2010, a period where consistent monthly data is available. The α_i^0 and β_i^0 coefficients allow for heterogeneity in each exchange (differing population density, income and other demographic characteristics) while the α_K and β_K coefficients (K = 1,2,3) can be interpreted as the specific effects of the entry of Sky and CPW on the level and growth rates in BT's service share.

A linear model with individual level and growth effects was also considered (and reported in Table R1) in the Response to the review of the econometrics in the June submission but that model has Total household broadband penetration as the dependent variable; here BT's service share (market share) is the dependent variable since this variable is the prominent variable in Ofcom's second consultation.

3. Results and Conclusions

The model is estimated using a Fixed Effects panel-data estimator and estimates of the α_K and β_K parameters are given below in Table T1.

For the first model where we have no Virgin media presence, then if ✂is present in an exchange with BT then the effect of the entry of ✂is to increase the rate of decline of BT's service share from ✂ a year to ✂ reduction per year. Note that this is an absolute value and would for example imply a reduction in the service share from ✂ to ✂ over a year after entry. Arguably this is an underestimate as it does not include the impact of migration.

For the case where Virgin Media is present then the additional presence of ✂leads to a reduction of ✂ in BT's service share each year.

Note that there is an estimated increase in the *level* of BT's service share of ✂ when ✂enters a market where BT and ✂are already present; it is likely that exchanges with higher initial levels of BT's share are going to be targeted by multiple entrants. This finding does therefore not detract from the impact on BT's shares over time discussed above.

In summary, where ✂enters an exchange where ✂is already present, there is a rapid loss of share for BT (and indeed ✂as established in my previous supplementary report). These findings are consistent with and augment those of my previous reports.

Table T1: Estimated effect on BT's service share of the entry of ✂and✂.

Estimated in Markets 2 and 3, September 2008– March 2010

	No Virgin Media Presence	**Virgin Media present**
Dependent Variable	SH_{it}^{BT}	SH_{it}^{BT}
Level Effects✂		