COMPETITION ACT 1998

Decision of the Director General of Telecommunications

BT publishing its 118500 directory enquiries number on the front of the BT phonebook

23 December 2003
(Case CW/604/03/03)
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SUMMARY

The Director General of Telecommunications (‘the Director’) has concluded that the conduct of British Telecommunications plc (‘BT’) in publishing its directory enquiries (‘DQ’) number on the front of the BT phonebook (‘the Phonebook’) has not had a material adverse effect on competition in the telephone DQ services market. Accordingly, there are no grounds for a finding that BT has abused a dominant position contrary to the prohibition imposed by section 18 (the Chapter II prohibition) of the Competition Act 1998 (‘the Act’).

On 10 December 2002, competition in the provision of telephone DQ services using new 118xxx numbers was launched in the UK. New DQ 118 numbers were subject to a period of parallel running with existing DQ numbers until 24 August 2003, when ‘legacy’ numbers such as 192 were made unavailable for telephone DQ services.

The Director received a complaint (‘the Complaint’) on behalf of several DQ service providers (‘DQSPs’) alleging that in distributing copies of the Phonebook displaying BT’s new 118500 number on the front cover BT had leveraged its dominant position in the market in which ‘white paper’ directories are supplied so as to foreclose competition in the ‘DQ market’ contrary to the Chapter II prohibition.

Whilst the Director considers, without concluding on the matter, that BT is likely to be dominant in the market in which the Phonebook is supplied, DQ call volume data for 118 numbers originating on BT’s network obtained during the investigation, together with supporting evidence, indicate that BT’s conduct has not had a material adverse effect on competition in the market for the provision of telephone DQ services in the UK. Accordingly, the Director has concluded that BT has not infringed the Chapter II prohibition.
Chapter 1

BACKGROUND

1. In September 2001, the Director set out his decision to introduce competition in the provision of telephone DQ services by introducing new access codes for such DQ services. The new access codes would start with ‘118’ and, after a period of parallel running, ‘legacy’ DQ numbers, including BT’s 192, would be made unavailable.

2. The decision to replace legacy DQ numbers was taken after a cost-benefit analysis of a number of options, international benchmarking and research into consumers’ attitude to DQ services. Key to the decision to withdraw 192 was the view that retaining a 192 default code would fail to deliver the benefits associated with market liberalisation. Experience from other countries such as Ireland and Germany demonstrated that withdrawal of legacy codes led to significant market entry and price competition to the benefit of end users.

3. In May 2002, the Director held a lottery to allocate the initial tranche of 118 DQ codes to DQSPs. A lottery was the Director's chosen allocation procedure to ensure an appropriate balance between the needs for transparency, fairness and simplicity in assigning 118 DQ codes to competing service providers.

4. On 10 December 2002, DQ services using the new 118 numbers were launched in the UK, commencing a period of parallel running with existing DQ numbers. After a period of consultation, the Director decided that the period of parallel running would end on 24 August 2003. Consumers continuing to dial the legacy DQ numbers now receive a free network message advising the caller that DQ numbers have changed to 6-digit numbers starting with 118 and providing a freephone number for consumers to call to obtain a 118 number. This freephone service provides at least one appropriate 118 number to callers on an impartial basis. The period of network messaging will run until 20 June 2004 unless Ofcom decides otherwise following further public consultation.

5. The Director's decision to liberalise the telephone DQ services market and to invest considerable public resource in undertaking this process was taken following a cost-benefit analysis that demonstrated that the introduction of competition was likely to bring significant benefits to consumers through both reductions in price and the introduction of new services. Any conduct resulting in a material adverse distortion of competition in this newly liberalised and emerging market would risk undermining the potential benefits to consumers and the reasons for which public resources were committed for the purpose of liberalising this market.

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3 The number behind which any DQ service is provided is of critical importance to the service - the more easily remembered the number the more consumers are likely to recall and dial it. Certain highly recognisable numbers are commonly referred to as ‘Golden Numbers’ because of their relative ease of recall.

4 The future use of legacy directory enquiry numbers - A consultation document issued by the Director General of Telecommunications on proposals to re-designate existing access codes used for directory enquiries (7 March 2003) (http://www.ofTEL.gov.uk/publications/consumer/2003/dqs0303.pdf).

Chapter 2

THE FACTS

A  The Undertakings

6. BT Group plc is the listed holding company for an integrated telecommunications group that provides voice and data services in the UK and elsewhere. British Telecommunications plc is a wholly-owned subsidiary of BT Group plc and holds virtually all businesses and assets of the group.

7. BT’s principal activities include local, national and international telecommunications services, broadband and Internet products and services, and IT solutions. BT serves approximately 21 million UK residential and business customers. In the financial year to March 2003, the BT group had a turnover (from continuing activities) of £18.7 billion. Approximately 94 per cent of BT’s group turnover was generated by operations in the UK. BT is an undertaking for the purposes of the Chapter II prohibition.

8. BT consists principally of three lines of business: BT Retail, BT Wholesale and BT Global Services (formerly BT Ignite). BT Retail is the UK’s largest communications service provider by market share to the residential and business markets. It is responsible for the provision of exchange lines to BT’s UK residential and business customers, the leasing of private circuits and other private services, and the sale and rental of customer premises equipment. Within BT Retail, the ‘BT Directories’ division is responsible, amongst other things, for all BT’s retail DQ services and also the Phonebook.

9. At the material time, BT was licensed under section 7 of the Telecommunications Act 1984 (‘the Telecommunications Act’) to run telecommunications systems in the UK and to provide telecommunications services. BT’s licence contained conditions for the universal provision of basic telecommunications services. In particular, Condition 2 of the BT licence required the provision of ‘directories’ to end users and BT met this obligation through the printing and distribution of copies of the Phonebook. On 25 July 2003 a new EU regime (‘the New Regime’) for the regulation of electronic communications networks and services entered into force. The New Regime includes Directive 2002/22/EC on universal service and users’ rights relating to electronic communications networks and services, Article 5 of which contains the Member States’ obligations in relation to, amongst other things, the provision of directories.

10. The Complaint to the Director was submitted on behalf of the following undertakings:

   (i)  i-CD Publishing Limited (trading as 192.com Limited) (‘192.com’);
   (ii) Cable & Wireless U.K Limited (‘Cable & Wireless’);
   (iii) Centrica Communications Limited (‘Centrica’);
   (iv)  Conduit Directory Services Limited (‘Conduit’);
   (v)   Telco Global Limited (‘Telco’);
   (vi)  118866 Limited (‘Telegate’);
   (vii) Telewest Communications plc (‘Telewest’); and

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7 Ibid., page 46.
9 The Directive is implemented in the UK through the Communications Act, which received royal assent on 17 July 2003.
9 On 5 August 2003, Telewest informed Oftel that it no longer wished to be included as a complainant in this investigation.
There are several different business models adopted by DQSPs. For example, some DQSPs are business units of a public network operator (such as BT and C&W). Other DQSPs are independent businesses that are not themselves public network operators (such as 192.com). These service providers may provide DQ services directly to consumers, and they may provide ‘agency’ DQ services on behalf of network operators (i.e., the service is branded and tailored as if it is the network operator’s service, rather than the DQSP’s). In either case, the independent DQSP requires a ‘host’ network operator. The ‘host’ network operator receives all calls destined for the DQSP that originate on the many other telecommunications networks and routes them to the DQSP which provides the DQ service (this service is known as ‘terminating’ a DQ call, and the host is known as the terminating network operator).

Consumers are usually charged for calls to DQ services by their access network operator, whether this is a direct access network operator such as BT or a cable company, or an indirect access network operator such as Centrica. The revenue for the DQ call (less the originating operator’s retention) is passed on to the terminating network operator under established industry interconnection arrangements. The terminating network operator will then share this revenue with the DQSP under commercially agreed terms.

As described above, the market for the provision of telephone DQ services has undergone considerable change as a result of the liberalisation in the provision of telephone DQ services on 10 December 2002. Evidence provided to the Director by BT and the complainants indicates that the UK telephone DQ market is worth in the region of £300 million per annum. In the year 2002/2003, the UK telephone DQ market is expected to generate approximately 700 million calls.

B The Complaint

On 20 March 2003 the Director received a complaint on behalf of the parties listed in paragraph 10 above concerning the conduct of BT in distributing copies of the Phonebook displaying 118500 on the front cover. BT commenced distribution of copies of the Phonebook bearing 118500 on the front cover in January 2003.

The Complaint alleged that BT is dominant in the market for white paper directories, and was using its dominance in this market to advance its position in the market for telephone DQ services by granting itself preferential advertising space not available to DQ competitors.

As well as requesting the Director to investigate the relevant issues, the complainants requested the Director to take interim measures to prevent the distribution by BT of directories with 118500 on the front cover.

C The Director’s Investigation

Recent advertising of DQ118xxx services in the UK market supports the proposition that number recognition and recall is crucial to the provision of telephone DQ services. Evidence provided by DQSPs during the course of the Director’s investigation confirms that DQSP marketing activity has focussed more heavily on the visibility or memorability of the 118xxx number string, rather than on price or service quality. The Director believes that this reflects the focus of DQSPs on consumers rather than corporate customers, the latter tending to consider price and quality over number recognition and retention.

10 Some consumers use alternative access network service providers who are not network operators but who resell the products of network operators.
11 Submission of 20 March 2003 by C&W on behalf of the complainants.
12 Although the Director notes that, under the ICSTIS (The Independent Committee for the Supervision of Standards of Telephone Information Services – www.icstis.org.uk) Code of Practice, all advertisements must contain pricing information.
18. The Director considered that the relative permanency of the Phonebook compared with other forms of advertising and its widespread distribution throughout the UK indicated that the Phonebook could be an important factor in influencing consumers’ choice of DQSP. Consequently, the Director considered that there were reasonable grounds for suspecting that the Chapter II prohibition had been infringed and commenced an investigation pursuant to section 25 of the Act on 21 March 2003.

19. Formal notices under section 26 of the Act requiring the provision of specified information and documents were sent to BT on 7 April and 13 May 2003. In light of the information provided by BT, together with further information provided by the complainants on an informal basis, the Director considered whether it was necessary to take interim measures under section 35 of the Act.

20. On 21 May 2003, BT voluntarily gave the Director undertakings regarding the further printing and distribution of copies of the Phonebook bearing 118500 on the front cover until completion of OfTEL’s full investigation under the Act. Accordingly, no further action was taken pursuant to section 35 of the Act and the Director continued with his full investigation.

21. Crucial to the Director’s full investigation under the Act was a comparative analysis of DQ call origination data in those areas where the Phonebook bearing 118500 had been distributed by BT and those areas where it had not. The ability to carry out this analysis has been influenced by the parallel running of 192 and the 118 numbers from 10 December 2002 until 192 switch-off on 24 August 2003.

22. Evidence from previous changes such as the National Code and Number Change (NCNC) in April 2000 has demonstrated considerable reluctance on the part of consumers to change dialling behaviour until the last minute. Inertia in moving away from the three digit, easily remembered 192 to a six digit 118xxx number is likely to have been high. This has been confirmed by DQSPs during the course of the Director’s investigation.

23. DQ call origination data provided by BT Wholesale to the DQ118 industry Implementation Working Group (‘IWG’) confirmed that the majority of DQ users still used BT’s 192 during the period up to 192 switch-off. Accordingly, while the Director believed that establishing number recognition was a key aspect of competition in the telephone DQ services market, and that the use of the Phonebook to publicise BT’s 118500 number had the potential to impact on this aspect of competition, he considered that he could only realistically measure the effect of BT’s conduct from the point at which the majority of DQ users had to make a conscious choice of DQSP, in the absence of the familiar 192 (i.e post-192 switch-off).

24. On 15 August 2003, a formal notice under section 26 of the Act (revised on 29 August 2003) was sent to BT which, amongst other things, requested that DQ call origination data be provided in order to carry out the comparative analysis referred to above. At the same time, formal information requests were sent to the complainants.

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13 Source: Ringing the Changes: report on the NCNC produced by ‘All the phone companies together’.
Chapter 3

LEGAL AND ECONOMIC ASSESSMENT

A Introduction

25. Section 18 of the Act prohibits conduct by one or more undertakings which amounts to an abuse of a dominant position in a market where this may affect trade within the United Kingdom or part of it. Under section 25 of the Act, the Director may conduct an investigation if there are reasonable grounds for suspecting that the Chapter II prohibition has been infringed.

26. The Complaint alleges that BT has acted contrary to the Chapter II prohibition by using advantages that it has gained through its dominance in the voice telephony markets to leverage its dominance into the new and emerging telephone DQ market.

27. When considering whether leveraging could be a breach of the Chapter II prohibition in this case, the Director considers that it is necessary to show:
   (a) that there is dominance in a market;
   (b) that there has been a leveraging of this dominance into another market;
   (c) that there is a close relationship between the two markets in question; and
   (d) the leveraging took place by means of abusive conduct which has had a material adverse effect on competition.

28. The Director considers there to be a close inter-relationship among points (a) to (d) above. The ability to leverage from one market to another requires that the markets be closely related. Similarly, markets will be considered to be closely related where behaviour in one market is capable of materially affecting competition in another market. Unless there is dominance in the market(s) from which the leveraging takes place, there will be no materially anti-competitive effect in the closely related market.

29. On this basis, the Director has developed a three step test under which to analyse BT’s conduct:
   (i) Is there dominance?
   (ii) Is there the ability to leverage from the dominant market into a closely related second market?
   (iii) Has leveraging occurred (ie if point (ii) is satisfied, has BT’s conduct actually had a material adverse effect on competition in the closely related, second market)?

B Dominance

30. The European Court has defined a dominant position as:

   “…a position of economic strength enjoyed by an undertaking which enables it to prevent effective competition being maintained on the relevant market by giving it the power to behave to an appreciable extent independently of its competitors, customers and ultimately of consumers”.

31. For the purposes of the Chapter II prohibition, dominance is assessed within a relevant economic market. The relevant market has two dimensions: the relevant goods or services (the product market) and the geographic extent of the market (the geographic market). A relevant product market comprises all those products and/or services which are regarded as interchangeable by any reason of

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14 The Director’s approach in this case follows that taken in the Freeserve case – see http://www.ofTEL.gov.uk/publications/broadband/other/freet0703.htm.
16 See OFT Guideline 402 The Chapter II Prohibition, paragraph 3.3.
17 Ibid., and OFT Guideline 403 Market Definition, paragraph 2.10.
the products’ characteristics, prices and intended use\textsuperscript{18}. A relevant geographic market comprises the area in which the undertakings concerned are involved in the supply and demand of products or services in which the conditions of competition are sufficiently homogeneous and which can be distinguished from neighbouring areas because the conditions of competition are appreciably different in those areas\textsuperscript{19}.

32. For the purposes of the current investigation, there are two markets of relevance to the alleged breach of the Chapter II prohibition, namely the market(s) in which:

(a) BT may hold a dominant position; and
(b) the effect of any conduct carried on by BT is likely to occur.

**The market(s) in which BT may hold a dominant position**

33. In its recent decision in *Freeserve v Director General of Telecommunications*\textsuperscript{20}, the Competition Appeal Tribunal (‘CAT’) stated that:

"...it will often be appropriate for the Director, in rejecting a complaint on the grounds that there is no abuse, to indicate, at least briefly, which market or markets appear to him, at first sight, to be potentially relevant to his investigation, and whether or not he has made any assumption on the issue of dominance in those markets...We emphasise, however, that the Director is not required to decide issues which it is unnecessary for him to decide in order to reach a concluded view on a complaint\textsuperscript{21}.

34. Against that background, and in light of the Director’s conclusions set out in section D below, the Director has not considered it necessary to reach a final conclusion on the relevant product and geographic market in which BT is dominant, or on BT’s position on that market. The following therefore forms the Director’s preliminary assessment of the relevant markets in which BT may be dominant.

**The complainants’ view**

35. As noted above, the Complaint was submitted on behalf of a number of complainants. In addition, the Director received individual submissions from each of the complainants in response to formal notices under section 26 of the Act. There were also informal communications between Oftel and the complainants. The following represents a summary of the complainants’ joint and individual comments in relation to the markets in which BT may hold a dominant position.

36. The complainants allege that “BT has used its dominant position in the market for white paper directories, in which it is a monopolist, to advance its position in the market for DQ services by granting itself preferential advertising space not available to DQ competitors.” Later in the Complaint it is alleged that “BT is dominant in the market for paper telephone directories.” Alternatively, the complainants suggest that BT has a dominant position in retail telephony and/or subscriber database markets, if Oftel considers that the paper directories market is a public service and not an economic market.

37. The complainants argue that BT is a virtual monopolist in this market and that it is subject only to partial competition from Yellow Pages and Thomson with respect to paper listings. The complainants note that only the Phonebook lists all business and residential numbers in the UK and, as such, there is no substitute for the Phonebook from the demand side.

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\textsuperscript{18} See Commission notice on the definition of the relevant market for the purposes of Community competition law.

\textsuperscript{19} Ibid.

\textsuperscript{20} Case No 1007/2/3/02: Freeserve.com plc v Director General of Telecommunications [2003] CAT 5.

\textsuperscript{21} Ibid., paragraph 131.
38. The Complaint also explains that the financing and revenue streams of Yellow Pages and Thomson are different from that of the Phonebook. The former are funded by advertising income whereas the latter is funded by payments from BT’s retail telephony customers via line rental charges and standard service charges from other operators.

39. The complainants argue that BT would still be dominant if the Phonebook and Yellow Pages and Thomson were found to be within the same relevant market. In addition, on-line directories are not a substitute for paper directories and are therefore not in the same relevant market. The complainants note that the majority of the population does not have access to a computer.

40. According to the complainants, no operators have entered the “white pages directories market” as the costs of producing and distributing an alternative, non-advertising based directory for distribution to the end user is prohibitive. Furthermore, potential users would not be prepared to pay a fee for such a directory when they already perceive the same product being supplied by BT free of charge.

41. One complainant states that BT is super dominant in the phonebook market as it supplies practically all subscribers with telephone books. The same complainant notes that the markets for telephone DQ services and telephone books are “closely interrelated” and “in many instances both...form substitutes to each other”.

BT’s view

42. BT has not made any substantive submissions on its view of the relevant markets. In its response of 14 April 2003 to a notice dated 7 April 2003 under section 26 of the Act, BT comments on the preliminary reference markets used by the Director for the purpose of the formal information request. BT argued that the provision of retail access services “...cannot be a relevant market.” As such, BT does not address this market further. In relation to the provision of residential paper directory services, BT explains that it “…is at a loss to understand how OfTEL can have reasonable grounds to believe that BT may be dominant in the supply of paper directories to residential customers, even if these are in a separate market from directory services supplied by telephone or e-mail.”

43. BT explains that there are a number of suppliers of paper directories to residential and business customers in the UK, the principal suppliers being Yell, Thomson and BT. BT notes that Kingston Communications (‘Kingston’) publishes and distributes its own directory, whilst other suppliers do exist (noting that some operators ask BT to supply a directory on the operator’s behalf and can obtain the white pages at a regulated price and affix their own covers).

44. In its written submission of 6 June 2003, BT states that it “does not accept that OfTEL has correctly defined relevant markets for the purposes of this investigation. However, BT does not in this submission address the issue of market definition because even on OfTEL’s market definitions, BT’s conduct is not capable of being characterised as an abuse.”

The Director’s view

THE RELEVANT PRODUCT MARKET

45. There are two dimensions to the definition of a relevant market: the relevant products to be included in the same market and the geographic extent of the market.
46. Market boundaries are determined by identifying constraints on the pricesetting behaviour of firms. There are two main competitive constraints to consider: how far it is possible for customers to substitute other products or services for those in question (demand-side substitution); and how far suppliers could switch, or increase, production to supply the relevant products or services (supply-side substitution) following a price increase.

47. The concept of the ‘hypothetical monopolist test’ is a useful tool to identify close demand-side and supply-side substitutes. A product (or service) is considered to constitute a separate market if a hypothetical monopoly supplier could impose a small but significant, non-transitory price increase (‘SSNIP’) above the competitive level without losing sales to such a degree as to make this unprofitable. If such a price rise would be unprofitable, because consumers would switch to other products, or because suppliers of other products would begin to compete with the monopolist, then the market definition should be expanded to include the substitute products.

48. The SSNIP is usually calculated with reference to the competitive price, or some proxy, to ensure that the range of substitutes considered does not reflect the existing use of market power (the so-called ‘cellophane fallacy’).

49. The focus of the Director’s investigation has been the supply by BT of non-classified paper directories containing residential and business listings (also known as ‘white pages’ directories) to end users in the UK. This represents the starting point for assessment of demand and supply-side substitutes.

50. The Phonebook is a paper directory listing the names, addresses and telephone numbers of BT’s (and other direct access operators’) residential and business subscribers for the relevant geographic phonebook delivery area. Until recently the Phonebook contained directory information for the relevant geographical area in a non-classified, A to Z format. In January 2003 BT commenced distribution of the Phonebook containing classified and A to Z listings. BT updates its listings information, prints and then distributes an updated version of each edition of the Phonebook every twelve months on a rolling schedule.

51. BT itself describes the Phonebook as follows:

“The BT Phonebook is a regularly-updated directory containing the residential and business numbers of BT and other Licensed Operators. A full set - covering the whole of the UK, comprises 180 books - approximately 15.5 million listings. The BT Phonebook is provided free of charge to BT customers within their local area. Additional books can be purchased for only £10* each by simply calling 0800 833400.”

52. As noted at paragraph 9 above, at the material time, BT provided the Phonebook in order to comply with a regulatory obligation. BT’s licence contained an obligation, amongst other things, to provide ‘directories’ (Condition 2). Such directories had to contain directory information on all subscribers who had been allocated telephone numbers, that is, the name, address and telephone number of the subscriber. Directories could be in paper or electronic format.

53. Importantly, there was no obligation on BT to charge for the Phonebook, only that a charge may be levied. Rather than instituting a separate charge, BT recovers the cost of providing the Phonebook through an allocated proportion of the line rental charge made to its exchange line customers and through revenue gained through advertising in the Phonebook and on the back cover. Each customer using BT for the provision of fixed line telephony (typically by way of narrowband analogue ‘exchange lines’) would automatically receive a copy of the Phonebook. In other words, BT ‘bundles’ the supply of the Phonebook with supply of its fixed line telephony services. Given these atypical competitive conditions in which the Phonebook is supplied, establishing a competitive price for the Phonebook and

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27 BT changed to a 12 months distribution cycle in January 2003.
29 Unless subscribers expressed opposition to the inclusion of such directory information - Condition 2.3.
its potential substitutability with other forms of directories or number information services is made more difficult.

54. Keeping in mind the objective of the market definition process (namely, to determine the relevant product space over which competition occurs), the Director considered two ways to assess the demand and supply-side substitutes to the Phonebook. The first was to assume that the Phonebook was supplied ‘unbundled’ from the supply of exchange lines, and to consider a SSNIP based on a proxy for the competitive price (the wholesale cost). The second was to consider a SSNIP based on the bundled price of the provision of analogue exchange lines and the Phonebook.

The ‘unbundled’ Phonebook

55. Taking the first approach, the SSNIP test calls for the consideration of a ‘competitive’ price, and then the identification of potential substitutes with a small increase over this price. One possible proxy for the competitive price could be the wholesale price which BT charges other providers of exchange lines for its own Phonebook.

56. Turning to potential substitutes, in the Director’s view non-classified paper directories could be described as falling within a broad category of ‘number information services’. Within this category, it is possible to differentiate between a number of ‘directory products’, including phonebooks, telephone DQ services30 and CD-ROM directory information on the basis of the objective characteristics of the products and services under examination:

- **Telephone directory enquiries**
  
  Telephone DQ services are a mobile source of number information; the Phonebook is ‘static’. Consumers may not always have a Phonebook for the relevant geographic area to hand. DQ calls are considerably more expensive than using the Phonebook to obtain a number and, unlike the Phonebook, are constantly updated.

- **CD-ROM**
  
  CD-ROM packages are available to consumers from BT (‘BT Phonedisc’) and other suppliers. BT describes the BT Phonedisc as a “fixed cost solution”31. It contains approximately 15 million business and residential listings. The BT Phonedisc is available at a cost of £36. BT also offers LAN networked and intranet versions of the Phonedisc at a cost of £850 and £8,500 respectively for a year’s unlimited use. Information on these versions is updated every quarter; the standard CD-ROM expires after one year. These services are considerably more expensive than a Phonebook and are likely to be suitable for higher volume/business users only. They also require computer equipment, which may not be readily available to consumers of Phonebook services and in many circumstances will be less timely (where the computer has to be switched on). Recipients of the BT Phonedisc are required to enter into a licence agreement with BT.

- **‘Online’ DQ services**
  
  BT (and others) also provide ‘online’ DQ services. BT provides its online DQ service free of charge for low volume use. However, there are also charges for the Internet connection itself (via an Internet Service Provider), and again, using this service requires computer equipment, which may not be possible for many consumers of phonebook services (Oftel’s latest research indicates 50 per cent of homes currently have access to the Internet32).

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30 BT’s website refers to this as DQ “voice services”.
31 BT website.
• **Classified directories**

Whilst paper classified directories are supplied free to consumers, they generally do not contain residential listings. Even if other classified directories contained residential listings, the geographic area covered by the directory may be different from that covered by the Phonebook.

57. Whilst some of these sources of number information may be described as complementary, in light of the different characteristics of each source described above compared with the Phonebook, the Director’s preliminary view is that they are only to a very limited extent demand-side substitutes for the Phonebook.

58. The Director also considers that there is limited potential for supply-side substitution as a result of a SSNIP. Supply-side substitution is a form of low-cost new entry that it is considered would occur without significant sunk costs and so rapidly that the market definition should be broadened to include the products supplied by the supply-side substitutes (rather than forms of potential entry).

59. The Director notes that it is possible to acquire, on a wholesale basis, a licence for use of BT’s Operator Services Information System (‘OSIS’) which contains relevant directory information. It is therefore plausible that entry could occur to provide non-classified listings in similar form to the Phonebook. However, in the absence of a pre-existing billing relationship with the customer the entrant would have limited ability to recover its additional costs of supply, and there would be costs to establish such a relationship (for example, customer acquisition costs). In the Director’s view therefore the conditions for supply-side substitution are not present.

60. Accordingly, if the supply of the Phonebook ‘unbundled’ from analogue exchange lines is considered, the Director’s preliminary view is that the relevant market may be the market for the provision of non-classified paper directories to end users.

**The ‘bundled’ Phonebook**

61. Taking the second approach to market definition (that is, considering a SSNIP based on the bundled price of the provision of analogue exchange lines and the Phonebook), the Director considers that his analysis would largely follow that associated with defining the market in which narrowband exchange lines are supplied. That is, it would be necessary to consider the effect of a SSNIP for the supply of such exchange lines, reflecting the fact that the supply of the Phonebook is included in the charge made for analogue exchange line rental.

62. Under the New Regime, Oftel is obliged to carry out reviews of competition in communications markets, to ensure that regulation remains appropriate in the light of changing market conditions. Under the new regulatory framework, the term "significant market power" (‘SMP’) has been aligned with the competition law concept of dominance. On 28 November 2003, the Director published his conclusions following a review of the fixed narrowband retail services market (‘the Review’). The findings in the Review form the Director’s view on the level of regulation appropriate for this market now and on a forward looking basis, although these findings are without prejudice to the Director’s findings in any investigation under the Act.

63. The Review concludes that each of residential and business analogue exchange line services in the UK (excluding the Hull Area) is a relevant market. The Director considers that this could provide

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33 In undertaking this analysis the Director assumes that it is the exchange line customer who faces the price increase. Because BT does derive some revenue from advertising within and on the Phonebook covers, it would also be possible to apply the SSNIP test to those paying for advertising. However, in the Director’s view the finding that the ‘classified’ components of the Phonebook was in the same market as other classified directories would not obviate the finding of a separate market for the non-classified components of the Phonebook, given the different set of customers and prices charged.


relevant guidance for the second basis on which the relevant market could be defined for the purpose of this investigation (ie the 'bundled' Phonebook).

64. Accordingly, if the supply of the 'bundled' Phonebook is considered, the Director's preliminary view is that the relevant markets may be the markets for the provision of residential and business analogue exchange line services.

THE RELEVANT GEOGRAPHIC MARKET

The ‘unbundled’ Phonebook

65. BT provides the Phonebook throughout the UK, with the exception of the Hull area, to which Kingston is the sole supplier of phonebooks. This suggests that the Kingston area may constitute a separate geographic market. As such, if the supply of an ‘unbundled’ Phonebook is considered, the Director’s preliminary view is that the relevant market may be the market for the provision of non-classified paper directories to end users in the UK (excluding the Hull area).

66. Whilst BT distributes the Phonebook throughout the UK, for the purpose of providing residential listings information, BT divides the listing information and distribution of the Phonebook in accordance with over 180 geographic phonebook delivery areas\(^\text{36}\). From the demand side, it could therefore be argued that one Phonebook is not substitutable for another. However, the Director has not reached any conclusions on the geographic extent of the relevant market. In any event, and for the reasons described in paragraphs 71 to 74 below, whether the ‘unbundled’ Phonebook market is delimited on a national or narrower level, this is unlikely to change the Director’s initial conclusions on whether BT is dominant in the market for the provision of non-classified paper directories to end users.

The ‘bundled’ Phonebook

67. The Director notes that the Review concludes that the provision of residential and business analogue exchange line services excludes the area of Hull. As such, the Director’s preliminary view is that the relevant markets may be the markets for the provision of residential and business analogue exchange line services, excluding the Hull area.

Director’s conclusion on the relevant market(s) in which BT may hold a dominant position

68. The Director’s preliminary view therefore is that the potentially relevant markets in which BT may hold a dominant position could be:

- the market for the supply of non-classified paper directories to end users in the UK (excluding the area of Hull); or

- the market for the provision of residential analogue exchange line services in the UK (excluding the area of Hull) and the market for the provision of business analogue exchange line services (excluding the area of Hull).

69. However, as noted above, the Director does not consider it necessary to reach a final conclusion on the relevant product and geographic market in which BT may hold a dominant position. For the purpose of the rest of this decision, the markets in which BT may hold a dominant position are described as ‘the relevant phonebook markets’.

\[^{36}\] BT submission of 1 September 2003 in response to a notice under section 26 of the Act dated 15 August 2003.
BT's POSITION WITHIN THE RELEVANT PHONEBOOK MARKETS

70. In assessing whether an undertaking is in a dominant position, the Director considers the extent to which an undertaking faces constraints on its ability to behave independently\(^\text{37}\). Those constraints might be existing competitors, potential competitors and other factors such as strong buyer power from the undertaking’s customers\(^\text{38}\).

The ‘unbundled’ Phonebook market

71. As far as the Director is aware, BT is the sole provider of non-classified paper directories to end users in the UK (excluding the Hull area). There are no competing suppliers of such directories in the UK (excluding the Hull area).

72. As noted above, other providers of publicly available telephone services were obliged to provide, amongst other things, directories. Operators could meet this obligation by providing their own product or, alternatively, purchasing wholesale copies of the Phonebook that are delivered by BT. Operators could purchase copies of the BT ‘branded’ Phonebook for delivery to their customers or, alternatively, they could purchase copies of the listings information only (in effect the ‘inside’ of the Phonebook) and bind their own branded front cover to this before undertaking their own delivery to customers. The Director is currently unaware of any operator that purchases only the internal listings information from BT for onward binding and delivery. In a meeting of 26 March 2003, BT said it did not believe that this option had been taken up by any operator since November 1998\(^\text{39}\).

73. The Director believes that this provides an indication that there are significant barriers to entry into the relevant market. In particular, BT’s high market share and consequent economies of scale in production and distribution are likely to be prohibitive to existing exchange line suppliers seeking to supply directories. For a firm seeking to supply to BT’s exchange line customers, given that BT’s fixed line customers automatically receive a copy of the Phonebook (which may be perceived as ‘free’ for BT customers), they are unlikely to want to pay for a second non-classified paper directory in addition to the Phonebook. In light of BT’s billing relationship with existing exchange line customers, the supply of a competing non-classified paper directory to the minority is unlikely to be an attractive economic proposition.

74. It is the Director’s preliminary view that at the material time BT was (and still is) the de facto sole supplier of the Phonebook in the UK (excluding the area of Hull) and there are significant barriers to entry inhibiting the competitive supply of such directories. Accordingly, the Director’s preliminary view is that BT is likely to be dominant in the market for the provision of non-classified paper directories to end users in the UK (excluding the Hull area).

The ‘bundled’ Phonebook market

75. As noted above, any BT customer using BT for the provision of fixed line telephony automatically receives a copy of the Phonebook. The cost of providing the Phonebook is included in the telephone line rental charge. These lines are analogue lines that were originally designed to support voice traffic; they are the most common types of exchange lines that are installed in most residential and many small business premises. It is therefore arguable that BT’s position in the provision of analogue exchange lines could be indicative of BT’s position in the relevant phonebook market.

76. The Director notes that the Review\(^\text{40}\) concludes that BT has SMP (and therefore is dominant) in the markets for the provision of residential and business exchange line services in the UK (excluding the Hull area).

\(^{37}\) See paragraph 30 above.
\(^{38}\) OFT Guideline 415 Assessment of Market Power, paragraph 2.10.
\(^{39}\) Internal OfTEL minutes of a meeting between OfTEL and BT dated 26 March 2003.
\(^{40}\) See footnote 34 above.
The Director's conclusion on BT's position in the relevant phonebook markets

77. In light of the above, the Director's preliminary view is that BT is likely to be dominant in the potentially relevant phonebook markets identified above.

The market where the effect of BT's conduct occurs

78. When assessing if BT's conduct has had any material adverse effect on competition, the relevant market where the effect occurs must be defined.

The complainants' view

79. The complainants contend that the market in which BT is committing the abuse is that for DQ services and that BT has dominated this market. The complainants also contend that as all BT 192 directory access calls originated on the BT network (without the use of an indirect access codes or carrier pre-selection) are automatically routed to its own call centres, BT is dominant in the DQ market due to the fact that it is dominant in retail telephony.

BT's view

80. As noted above, BT has not provided any substantive submissions on its view of the relevant markets. In its submission of 6 June 2003, BT explains that it understands the supply of ‘wholesale’ DQ services to mean the provision of DQ services to businesses that offer such services. BT understands ‘retail’ DQ services to mean the supply of a DQ service to the end user.

The Director's view

THE RELEVANT PRODUCT MARKET

81. Telephone directory enquiries are services provided by DQSPs. Oftel has defined a national DQ service as:

“A Directory Enquiry Service which provides information on allocations of numbers to subscribers from the United Kingdom numbering scheme to callers located in the United Kingdom. [...]”

- and an international DQ service as:

“A Directory Enquiry Service which provides information to UK subscribers on allocations of numbers from the numbering scheme(s) of at least one, probably several major non-UK countries, covering the same range of numbers as commonly available DQ services in that country.”

82. The Director has commenced the market definition process by considering the relevant services supplied by BT and the complainants, namely the retail supply by voice during a telephone call of information on inland residential and business telephone numbers (collectively known as ‘telephone DQ services’).

83. At the relevant time, BT's licence contained an obligation to provide a ‘directory information service’ (Condition 2), in addition to the obligation to provide a directories. A directory information service was defined as directory information provided by means of a telephone system. Again, this service had to

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41 See footnote 25, paragraphs 20 and 21.
42 Allocating access codes for directory enquiry services - A statement issued by the Director General of Telecommunications on proposals for the allocation of access codes for directory enquiry services, and the necessary changes to the Numbering Conventions (1 March 2002) Glossary (http://www.ofTEL.gov.uk/publications/numbering/2002/dqall0302.pdf).
43 Ibid., Annex B.
contain information on all subscribers[44] who had been allocated telephone numbers, that is, the name, address and telephone number of the subscriber. This suggests to the Director that directory and telephone DQ services were seen as fulfilling quite different functions, indicating a degree of complementarity rather than substitutability.

84. As noted above, one method of assessing demand and supply-side substitutability is to consider whether customers would switch to readily available substitutes in response to a hypothetical small, permanent relative price increase in the products (or services) and areas being considered. Given BT’s inherent incumbency in the form of 192 and, together with the recent liberalisation of the UK DQ market, at this stage in the emerging UK DQ market it is difficult to establish a competitive price for a DQ service and thereafter assess the effect of a SSNIP.

85. For this reason the Director has considered the characteristics of the potential substitutes for telephone DQ services. As noted above, telephone DQ services could be described as falling within the broad category of ‘number information services’ and there is a number of relevant potential substitutes for number information supplied by a hypothetical monopolist of telephone DQ services. These include the services set out at paragraph 56 above. In the Director’s view, these potential substitutes have characteristics that make them very limited demand-side substitutes for telephone DQ services:

   • **Classified paper directories**

     Paper classified directories, such as the Yellow Pages or Thomson directories, are delivered free to all households, and have a zero incremental usage price, but they do not contain residential listings, and only cover small geographic areas. In addition, they are generally not organised alphabetically but by business category.

   • **Non-classified paper directories**

     The Phonebook has geographic limitations (with over 180 Phonebooks across the UK) meaning that for ‘out of local area’ phone numbers it will not be a substitute.

   • **‘Online’ DQ services**

     Again, online DQ services are unlikely to be substitutable for telephone DQ services given that there are charges for Internet connection. Using this service requires computer equipment, which may not be possible for many consumers of Phonebook services (Oftel’s latest research indicates that 50 per cent of homes currently have access to the Internet[45]) and there are higher charges involved in using computer equipment and the Internet. Online DQ services are generally ‘static’ and therefore unsuitable for mobile DQ users.

   • **CD-ROM**

     As noted in paragraph 56, CD-ROM packages and Internet-based directory enquiries services are available but are potentially more expensive, less timely and require equipment that may not be readily available to the majority of users seeking number information. The ‘one off’ access fee indicates they are likely targeted at high-volume users.

86. Some empirical evidence on consumer reactions to previous price changes by BT on the 192 service is available. As BT was the monopoly provider of directly dialled inland DQ services on its network, this information is considered relevant to the application of the ‘hypothetical monopolist’ test. The information was reviewed by consultants to Oftel when preparing a cost-benefit analysis on DQ number re-allocation:

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[44] Unless subscribers expressed opposition to the inclusion of such directory information - Condition 2.3.

[45] See footnote 32 above.
"We assume a price elasticity of demand of -0.2. Evidence here is limited. Since introducing charges for DQ services in 1991 BT has cut prices from 45 pence to 25 pence per call and then increased them to 35 pence per call, all with no obvious effect on demand."46

87. The lack of substitution away in response to the price increase provides *prima facie* evidence that the retail provision of telephone DQ services (that is, the retail supply by voice via a telephone call of information on UK residential telephone numbers and business telephone numbers) constitutes a separate relevant market. For the reasons explained in paragraph 85 above, the Director’s preliminary view is that the relevant market where the effect of BT’s conduct occurs is unlikely to be wider than the market for the retail provision of telephone DQ services (and is therefore unlikely to comprise other directory products or number information services).

88. The Director acknowledges that the telephone DQ services market could potentially be defined more narrowly (for example, according to the kind of network (fixed or mobile) or actual network (for example, the BT network) on which DQ calls originate. This is because demand and supply-side substitutability might be limited across networks originating DQ calls. However, in light of the Director’s comments in paragraph 109 below, the Director considers that the narrowest relevant market on which to assess any effect of BT’s conduct is that for DQ calls originating on BT’s fixed network.

THE RELEVANT GEOGRAPHIC MARKET

89. So far as the Director is aware, BT and other DQSPs apply uniform charges for each of their particular DQ services, irrespective of a customer’s location within the UK. This suggests a common pricing constraint, providing a preliminary indication that the market is national in scope.

Director’s conclusion on the relevant market in which the effect of BT’s conduct occurs

90. The Director has assessed whether BT’s conduct has materially adversely affected competition in the market for the retail supply by voice via a telephone call of information on inland residential and business telephone numbers in the UK originating on BT’s fixed network (ie the narrowest relevant market on which to assess any effect of BT’s conduct). In the Director’s view, if there is no material adverse effect on competition in this market, it is not necessary to review the effect on competition on the basis of the wider market definition as the effect will be, by implication, smaller. Accordingly, the Director has not found it necessary to conclude on the definition of the market where the effect of BT’s conduct occurs.

C Is there an ability to leverage?

Leverage of dominance

91. The European Court has accepted that an undertaking with a dominant position in one market may abuse that position by engaging in conduct in another market. This principle has been accepted in a number of cases47.

92. In this case, the Director is concerned with whether BT is leveraging its dominant position from the relevant phonebook markets into the market for telephone DQ services.

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46 The full report is available at http://www.oftelegov. uk/publications/numbering/dqs1100.html#Annex%20C.
Linkage between the markets

93. An undertaking that has a dominant position in one market might be able to exploit that position to behave anti-competitively in another market where there are horizontal links between the markets, that is, where an undertaking has dominance in one product market and uses it to acquire dominance or to strengthen an existing dominant position in a separate market.

94. There must, however, be a sufficient ‘link’ between market A and market B to justify the application of the Chapter II prohibition to leveraging conduct between markets. For example, in Tetra Pak II the court found (in the context of Article 82 of the EC Treaty) the link in markets that were “distinct but associated and requiring special circumstances”.

95. In this case the Director considers that the relevant phonebook markets and the telephone DQ services market are sufficiently proximate that it is feasible for action in the former to have an anti-competitive effect in the latter. As noted above, in early December 2002, new DQ codes beginning with the 118 prefix were opened on the UK network to facilitate the entry of a range of DQSPs. However, legacy DQ numbers, including BT’s 192 code, were subject to a period of parallel running with the new numbers until they were made unavailable for DQ services in August 2003. Data provided by BT Wholesale to the DQ IWG indicates that in May 2003, in excess of 80% of calls to telephone DQ services originating on the BT network were made to BT’s 192 service. By August 2003, this figure had dropped to only 70%. The Director therefore considers that it is likely that during the relevant period BT continued to be the single largest supplier of telephone DQ services by a considerable margin.

96. BT’s high market share in the legacy telephone DQ services market, in combination with its likely dominance in the relevant phonebook markets, indicates that there is likely to be a strong connection in the mind of the consumer between the supply of number information services and directory products and BT. By introducing competition into the supply of one of these services, account needs to be taken of BT’s action in the other.

The ‘unbundled’ Phonebook market

97. Whilst both supply of the ‘unbundled’ Phonebook and telephone DQ services have unique features and different pricing structures, the services provided in both markets are retail services and both services provide the customer with relevant number information.

The ‘bundled’ Phonebook market

98. As noted above, BT ‘bundles’ the supply of the Phonebook with the provision of residential and business analogue exchange lines, the medium over which the majority DQ calls are made. BT has a high market share in the provision of such lines. In the Director’s view, BT’s conduct in the provision of residential and business analogue exchange lines (which by definition includes conduct in relation to the Phonebook) is therefore capable of having an effect in the telephone DQ services market.

Conclusion

99. Given the close relationship between the two reference markets, the Director considers that conduct by BT in the relevant phonebook markets has the potential to impact on competition in the telephone DQ services market. The Director has, therefore, proceeded to investigate the actual effect on competition of BT’s conduct.

48 OFT Guideline 414 Assessment of Individual Agreements and Conduct, paragraph 8.2.
50 See footnote 48, paragraph 8.5.
D Abuse - has leveraging occurred?

The complainants' view

100. As noted above, the Complaint was submitted on behalf of a number of complainants. In addition, the Director received individual submissions from each of the complainants in response to formal notices under section 26 of the Act. There were also informal communications between Oftel and the complainants. The following represents a summary of the complainants' joint and individual comments in relation to the alleged abuse.

101. The complainants contend that the abuse consists of BT providing its DQ business with preferential advertising space that is not available to other advertisers. BT’s retail DQ business would not have had access to the Phonebook but for the fact that BT owns the directory business.

102. The complainants describe the Phonebook as “the only comprehensive phone directory available”\footnote{See footnote 11.}. Competing DQSPs do not have access to any similarly permanent, universally distributed advertising medium that end users invariably keep by their telephones (i.e., the place where a DQ call is made). Simultaneous television or front cover national newspaper advertising could not reach all telephone subscribers (which in any event would not be a permanent advertising medium). It would be prohibitively expensive for a competitor to undertake this kind of campaign.

103. Accordingly, the complainants argue that competing DQSPs cannot match the Phonebook in advertising their DQ services. Given the wider distribution of the Phonebook, advertising on other types of telephone directory cannot match BT’s advertising advantage. The Phonebook is regarded as more valuable and objective. Publicising the Phonebook with BT’s 118500 therefore suggests that this is the only DQ number available. As such, it is used more, hardly ever discarded and prominently kept next to the telephone. According to one complainant the Phonebook is “the bible of the phone number seeker” and BT’s behaviour forecloses “a certain part” of the DQ market from competition – BT gains customers it would not otherwise have won resulting in a loss of customers for competing DQSPs, higher advertising spend to be profitable and a later return on investment\footnote{Submission of Telegate dated 1 September 2003 in response to a notice under section 26 of the Act dated 15 August 2003, footnote 3.}. Accordingly, BT’s conduct raises barriers to entry for competing DQSPs.

BT’s view

104. BT’s view is that the launch of its 118 DQ service has involved advertising in a wide range of media of which the Phonebook is only one. It claims there is no authority for the proposition that the use of the Phonebook by BT to publicise its new DQ service is an abuse and conduct is only capable of an abuse if it involves recourse to methods different from those which condition normal competition. BT considers its conduct to be an entirely normal method of competition. In support of this, BT cites the ECJ’s judgment in \textit{Hoffmann-La Roche} which states, in the context of Article 82 of the EC Treaty, that an abuse of a dominant position encompasses:

\begin{quote}
\textit{…recourse to methods different from those which condition normal competition in products or services on the basis of transactions of commercial operators, [and] has the effect of hindering the maintenance of the degree of competition still existing in the market or the growth of that competition.}\footnote{Case 85/76 Hoffmann-La Roche v Commission [1979] ECR 461, paragraph 91.}
\end{quote}

105. BT also contends that there is no evidence that its conduct has any foreclosure effect and that the use of Phonebook to is of very little significance to the launch of competing telephone DQ services. BT notes that the Phonebook is used as a point of reference in the home. As such, the effect of BT’s conduct should only relate to fixed line customers. BT states that $[\%]$ per cent of DQ calls are made from fixed line customers. Approximately, $[\%]$ per cent of fixed line calls are made from business...
users ([X] per cent of DQ calls) who are likely to be guided by cost and service quality rather than the
Phonebook. Therefore, BT concludes that the Phonebook could affect only approximately [X] per
cent of DQ calls.

106. In BT’s view over [X] per cent of calls to its 192 service are from residential users who make frequent
use of telephone DQ services and who are therefore experienced DQ users. These users are unlikely
to be affected by the delivery of the Phonebook bearing 118500. In a meeting between BT and Oftel
on 29 July 2003, BT explained that the Phonebook will therefore be of value only in relation to “inert”
DQ users, but these numbers are not significant. [X]. It is not foreclosing its DQ competitors as the
latter are not targeting inert DQ users. These users account for a small proportion of all DQ calls.
Therefore, in BT’s view its conduct cannot affect the competitive structure of the DQ market. As the
Phonebook is kept by a telephone, in a cupboard etc, only a small proportion of users will use it as a
source of a DQ number. New DQSPs could not launch a DQ service by relying on attracting
infrequent residential users as they do not provide sufficient call volumes on which to recoup their
investment. Moreover, the recorded message that DQ users will hear on dialling 192 post switch-off
will have the effect of ‘reversing’ consumer inertia given that they are provided with a random DQ
number.

107. BT’s notes that its conduct is ‘de minimis’ (referring to the European Commission’s notice on
agreements of minor importance54) and argues that its conduct is objectively justified.

Background to the Director’s analysis

108. The parallel running of 192 and the new 118 numbers from 10 December 2002 until 192 was made
unavailable for DQ services on 24 August 2003 has influenced the ability of the Director to consider
whether leverage has occurred. DQ call origination data provided by BT Wholesale to the DQ industry
IWG confirmed that the majority of DQ users originating DQ calls on the BT network still used BT’s
192 for the period up to 192 switch-off. Accordingly, the Director considered that he could only
realistically measure the effect of BT’s conduct from the point at which DQ users had to make a
conscious choice of DQSP.

109. It is emphasised that DQ call origination data was obtained for 118 calls originated on BT’s fixed
network (although it is the Director’s preliminary view that the UK telephone DQ services market is not
necessarily delimited on the basis of specific networks). In the Director’s view, this data provide a
sufficiently representative basis on which to assess the effect (if any) of BT’s conduct for at least the
following reasons:

- BT (and Kingston) provide access to all 118 DQ access codes55. Some other networks provide
  their customers with access to only a limited range of 118 DQ access codes. In the Director’s
  view, therefore, data for calls originating on BT’s fixed network are more likely to reflect actual
  changes in DQ calling patterns resulting from BT’s conduct, which may be distorted by network
  operators that prevent access to certain DQ 118 numbers.

- Whilst mobile network operators generally provide access to all 118 access codes, in the
  Director’s view the ‘static’ nature of the Phonebook is less likely to have affected the DQ call
  behaviour of mobile users. Accordingly, the Director considers that the effect (if any) of BT’s
  conduct would be most pronounced if DQ call origination data were obtained in relation to DQ
  calls to all 118 access codes originated on BT’s fixed network (ie the narrow market).

- The Phonebook is delivered to BT’s residential and businesses fixed line customers. Given that
  the majority of fixed line users use BT for access (recent Oftel research shows that approximately

54 Commission Notice on agreements of minor importance which do not appreciably restrict competition under Article 81(1) of the
55 End-to-end connectivity - Guidance issued by the Director General of Telecommunications (27 May 2003)
80 per cent of fixed residential phone customers use BT for access\(^{56}\) and around 88 per cent of SMEs\(^{57}\) use BT for some or all of their fixed telecoms services, the majority of DQ calls are likely to originate on BT’s fixed network.

110. Accordingly, in the Director’s view, if there is no effect on DQ call origination patterns on the basis of DQ calls originating on BT’s fixed network, it will be unnecessary to consider any effect on the wider telephone DQ services market.

111. The objective of obtaining DQ call origination data from BT was to carry out an investigation into use of BT’s 118500 number in Phonebook delivery areas where the Phonebook bearing 118500 had, and had not, been delivered. In the Director’s view, if BT’s conduct had an effect on competition in the telephone DQ services market, the proportion of calls to 118500 would be materially higher in areas where the Phonebook bearing 118500 had been delivered.

112. The Director requested data for telephone DQ calls originating on BT’s network for two four-week periods: the four weeks prior to 192 switch-off (24 August 2003) and four weeks after switch-off. Call volume data was requested for each DQ number accessible to BT customers (including legacy DQ numbers such as 192 as well as all DQ118 access code numbers) split by each BT geographic residential Phonebook delivery area.

113. During a meeting on 6 August 2003, BT explained that the geographic areas served by its telephone exchanges are not coincidental to Phonebook delivery areas. In order to extract call volume data, BT had to track each DQ call to a geographic Phonebook delivery area using national area codes. However, as some national area codes are common to more than one geographic Phonebook delivery area the data may not have been sufficiently robust for the Director to detect the effect (if any) of BT’s conduct within the boundaries of the geographic areas that received the Phonebook bearing 118500 and those that did not. Accordingly, the Director requested BT to provide data for those national area codes that were readily identifiable as being exclusively within one given BT geographic residential Phonebook delivery area (ie excluding national area codes that are included in two or more BT geographic residential Phonebook delivery areas).

114. These sampled areas excluded a number of major metropolitan centres (including London) ('the Metropolitan Areas') where BT experienced greater difficulty in identifying local area codes that are exclusively within a Phonebook delivery area. The Director’s view was, however, that the DQ call volume data (excluding Metropolitan Areas) would provide a sufficiently representative sample of DQ calls to assess the effect (if any) of BT’s conduct on DQ users’ calling patterns for DQ calls originated on its network. The Director considered that if the call origination data obtained from DQ calls originating on BT’s network (excluding Metropolitan Areas) did not show a material effect on DQ calls to BT’s 118500 where the 118500 Phonebook had been distributed, there was unlikely to be a discernible effect in the excluded Metropolitan Areas. This is because the non-excluded areas were likely to provide a sufficiently representative set of ‘purer’ data from areas where the competitive conditions were likely to be on a less complicated playing field. For example, in the excluded Metropolitan Areas, a greater concentration of advertising by DQSPs could lessen the effect (if any) of the Phonebook bearing 118500. It was also thought that there might be less risk that call origination data from non-excluded areas would be affected by DQ users commuting from a 118500 Phonebook area to a non-118500 Phonebook area which would complicate the analysis of the DQ call origination data.

115. By way of example, call origination data was not provided for the London and Greater London areas, Birmingham, Glasgow, Liverpool, Manchester, Newcastle and Sheffield. Evidence provided to the Director shows that geographic-specific advertising activity took place in the major urban areas.


for example, carried out geographic-specific advertising in, amongst others, each of London, Glasgow, Newcastle, Birmingham, Manchester and Sheffield. This confirms the Director’s view that attributing the effect (if any) of BT’s conduct would be considerably more difficult in those areas.

116. Against that background, in response to a notice from the Director dated 15 August 2003 under section 26 of the Act, BT provided a list of each geographic residential Phonebook delivery area. Of the 184 Phonebook delivery areas listed, the Phonebook bearing 118500 was delivered to 56 delivery areas.

117. BT provided data for a total of 123 Phonebook delivery areas for which a national area code was found to be exclusively within that area (ie excluding data for Metropolitan Areas for which it was more difficult to identify a unique area code). Phonebooks bearing 118500 were delivered in 36 of those areas. The total sample of DQ calls obtained originating on BT’s fixed network exceeded [X] million distributed over the 123 Phonebook delivery areas. The Director considered that the sample of data obtained was of sufficient quality (in terms of size and variability) to be able to make inferences about DQ calls on BT’s network during the relevant four week period (see the Annex for further details on the Director’s statistical analysis).

Framework

118. The Chapter II prohibition prohibits the abusive exploitation of a dominant position. As described above, the Director’s view is that BT is likely to have a dominant position in the relevant phonebook markets. The Director also considers that there is a sufficient nexus between those markets and the telephone DQ services market to enable BT to leverage its dominant position into the closely related second market.

119. The use by BT of the Phonebook is a marketing advantage BT has over its competitors in the new and emerging telephone DQ services market. There are three key questions to consider when assessing whether the use of such advantages might amount to anti-competitive leveraging:

(i) Are the advantages unmatchable by competitors?
(ii) Is there an impact on competition (rather than just competitors)?
(iii) Is the impact on competition material and adverse?

Matchability

120. Following his approach in the Freeserve case62, it is important to note that the Director believes that the relevant test is not whether competitors can match BT’s advantages (ie the use of the Phonebook to publicise its DQ number), but rather whether competitors can match the effect of those advantages at a reasonable or comparable cost. BT will have many opportunities to market other services to its existing exchange line customers, and some of these could not be directly matched by competitors. However, competitors may be able to replicate the effect of BT’s marketing (ie obtain more sales) through another marketing medium. The relevant test therefore is whether competitors could offset BT’s perceived advantage by undertaking (similarly effective) marketing activities at a reasonable or comparable cost. The advantage would be considered to be unmatchable if it could be shown that competitors either could not match the effect of the conduct, or could only match the effect at a much higher cost than that incurred by BT.

121. If the effect of BT’s advantages could be matched by its competitors at reasonable or comparable cost, then using such advantages could not be considered to be a leverage of dominance.

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61 The Director’s approach in this case mirrors that taken in the Freeserve case – see footnote 14 above and paragraph 2.51 of that decision.
62 Ibid., paragraph 2.38.
Effectively, matchability would imply that no advantage is gained from the dominant position, and that competition in the second market (in this case, the market for telephone DQ services) would be unaffected.

122. In this case, the Director considers that it is not necessary to consider the question of whether BT’s conduct is matchable at a reasonable or comparable cost.

123. This is because his evidence has shown that BT’s conduct has not had a material adverse effect on competition in the telephone DQ services market (see paragraphs 126 et seq below). In other words, without evidence to support that BT’s use of its advantages derived from the dominant position is having an adverse effect on the structure of, or behaviour in, the relevant second market, BT cannot be said to be leveraging its dominance contrary to the Chapter II prohibition.

Impact on competition or competitors?

124. Below the Director analyses the effect of BT’s conduct on BT’s share of DQ calls originating on its network, and considers other relevant evidence. This provides an assessment of the effect of BT’s conduct on its competitors. For it also to constitute an effect on competition a necessary condition is that the effect of BT’s conduct in publicising its 118500 number on the Phonebook is unmatchable. Otherwise competitors could match the effect of BT’s conduct at reasonable or comparable cost, and competition in the telephone DQ services market would not be distorted.

125. As noted in paragraphs 120 to 123 above, the Director does not consider it necessary to conclude whether or not BT’s conduct is matchable because he considers that BT’s conduct has not had a material adverse effect on the telephone DQ services market. For a similar reason the Director does not consider it necessary to conclude whether an effect on competitors is, or is not, also an effect on competition.

Material adverse effect on competition

DQ call origination data

126. The methodology used by the Director to assess the effect of BT’s conduct has been described above.

127. The basic results from the sample of data for DQ calls originating on BT’s network for the period post-192 switch-off (for the reasons described more fully in paragraph 113 et seq, excluding the Metropolitan Areas) are as follows.

<table>
<thead>
<tr>
<th>Calls to BT’s 118500 DQ number originating on its network</th>
<th>Areas Without 118500 On Cover (call share – 87 Phonebook delivery areas)</th>
<th>Areas With 118500 On Cover (call share – 36 Phonebook delivery areas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean share of DQ calls</td>
<td>$[&gt;%]$</td>
<td>$[&gt;%]$</td>
</tr>
<tr>
<td>Median share of DQ calls</td>
<td>$[&gt;%]$</td>
<td>$[&gt;%]$</td>
</tr>
</tbody>
</table>

128. The results from the sample collected suggest that BT’s share of DQ calls originating on its network in the sample areas was slightly higher (on average, around 1 per cent) in areas where the Phonebook bearing 118500 has been delivered.

129. To make inferences about the results for all of the DQ calls originating on BT’s network (excluding Metropolitan Areas) on the basis of this sample, it is necessary to consider the likelihood of sampling error. In other words, as the Director did not consider it feasible to collect data on all DQ calls originated on BT’s network during the relevant period, it was necessary to factor into his analysis the possibility that the sample data may differ from the population data (which in this case is all DQ calls originating on BT’s network in non-Metropolitan Areas over the relevant four week period).
130. The Director has undertaken a statistical analysis of the sample data, more details of which are set out in the Annex to this decision. From this analysis, the Director concludes that he cannot reject the hypothesis that there is no difference between BT’s share of DQ calls originating on its network (excluding Metropolitan Areas) in the areas where the Phonebook bearing 118500 has, and has not, been delivered. Accordingly, the Director cannot reasonably conclude that BT’s conduct has had anything more than a negligible effect on DQ call origination patterns for DQ calls originating on BT’s fixed network (excluding Metropolitan Areas). As the Director has indicated in paragraph 114 of this decision, he believes that a priori reasoning supports the extrapolation of this result to DQ calls originated on BT’s network in Metropolitan Areas.

Comparison with other DQSPs

131. The following table highlights the relative performance of BT and its competing DQSPs for the period post-192 switch-off).

<table>
<thead>
<tr>
<th>DQSP</th>
<th>Areas Without 118500 On Cover (average call share in 87 phonebook delivery areas)</th>
<th>Areas With 118500 On Cover (average call share in 36 phonebook delivery areas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BT</td>
<td>[●●] %</td>
<td>[●●] %</td>
</tr>
<tr>
<td>Conduit</td>
<td>[●●] %</td>
<td>[●●] %</td>
</tr>
<tr>
<td>Telegate</td>
<td>[●●] %</td>
<td>[●●] %</td>
</tr>
<tr>
<td>The Number</td>
<td>[●●] %</td>
<td>[●●] %</td>
</tr>
<tr>
<td>Yell</td>
<td>[●●] %</td>
<td>[●●] %</td>
</tr>
</tbody>
</table>

Note: this includes data for both residential and business exchange lines

132. For the four week period pre-192 switch-off, it is evident that BT’s share of DQ calls originating on its fixed network (combining 192 and 118500 and excluding Metropolitan Areas) was consistently in excess of [●●] per cent. For the four week period post-192 switch-off BT’s share of DQ calls originating on its fixed network dropped to around [●●] per cent in the geographic delivery areas under examination (ie excluding Metropolitan Areas) where the Phonebook bearing 118500 had been delivered. During the period for which call origination data was requested, [●●].

133. The Director believes this provides compelling evidence that other forms of advertising have been more effective than BT publicising its DQ number on the Phonebook in both types of Phonebook area for which data was provided. This is evident even in non-Metropolitan Areas, which have not been subject to the intensity of advertising adopted by DQSPs in urban areas (such as the use of public transport, billboards, taxi cabs etc) and where competing DQSP advertising is perhaps likely to reach fewer people.
Supporting market research

134. Oftel market research\(^{63}\) supports the Director’s view that use of the Phonebook to publicise BT’s 118500 has not been an effective marketing medium and, as such, has not had a material adverse effect on competition. In August 2003, approximately 86 per cent\(^{64}\) of fixed line residential customers were aware of the introduction of new DQ numbers. The main source of awareness of the changes to DQ numbers was television advertising with 82 per cent\(^{65}\) of fixed line residential customers being aware of the changes naming this source. Other sources of awareness were press advertising (12 per cent), radio advertising (6 per cent), posters, word of mouth and a leaflet sent with the BT phone bill (4 per cent of fixed line customers being aware of the changes naming these three sources\(^{66}\)). Only 2 per cent said they had first learned of the DQ number changes from their Phonebook\(^{67}\).

135. Earlier Oftel market research\(^{68}\) reveals that of those residential consumers that had received a new copy of the Phonebook, three quarters could not remember what was on the front cover and only 1 per cent cited BT’s 118500. Again, this supports the Director’s view that the use of the Phonebook to publicise 118500 is not as effective in terms of number recognition and retention as other forms of advertising media.

Paper directories as a marketing medium

136. The Director is also aware that Yell distributes its classified, ‘Yellow Pages’ directory with its DQ number (118247) on the front cover and spine. As noted above, paper classified directories such as the Yellow Pages are a source of number information and are likely to be kept in the same place as the Phonebook (which did not bear 118500 on the more visible spine). Market research reveals that 49 per cent of consumers would use the Yellow Pages to find a phone number (8% more than the Phonebook)\(^{69}\).

137. If publishing a DQ number on paper directories in general is considered to be an effective advertising method, Yell’s DQ number \(^{[\text{[}}\). However, the DQ call origination data shows that Yell’s 118247 service had \(^{[\text{[}}\) (less than \(^{[\text{[}}\) per cent) of DQ calls originated over BT’s network (excluding the Metropolitan Areas). This would have also included the effect of other advertising (particularly radio advertising) undertaken by Yell\(^{70}\). This evidence tends to support the Director’s views that the use of paper directories in general to publicise DQ numbers is not as effective in terms of number recognition and retention as other forms of advertising media.

Residential and business DQ users

138. In addition, and as noted above, BT has argued that the effect of the Phonebook must be measured only in relation to the proportion of DQ calls from residential fixed lines (because business users are likely to be influenced by price and quality of service, rather than number recognition\(^{71}\)). The complainants contend that a key characteristic of the Phonebook is that it is a ‘static’ and permanent source of information and invariably kept by the fixed line telephone in residential homes. In the Director’s preliminary view, it seems reasonable to suggest that had BT’s conduct given its telephone DQ service any advantages, these are more likely to be shown by a comparative analysis of residential DQ calls originating on BT’s network. The sample data provided by BT shows that BT’s

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64 Ibid., paragraph 6.3.
65 Ibid., paragraph 6.9.
66 Ibid., paragraph 6.10.
67 Ibid.
68 The Directory Enquiries Story (April 2003), paragraph 8.4.
69 Ibid., paragraph 8.1.
70 See footnote 63 above, paragraph 6.16 which indicates that radio advertising was the main source of awareness for consumers who were specifically aware of Yell’s 118247 service.
71 One of the complainants noted that “the business market is much more geared towards only low price and small margin services with no enhancements.” – see submission of \(^{[\text{[}}\) dated \(^{[\text{[}}\) in response to a notice under section 26 of the Act dated 15 August 2003.
total share of residential DQ calls originating on its network (excluding the Metropolitan Areas) in those areas where the Phonebook bearing 118500 was delivered is consistent with the results reported above – that is, BT’s conduct has not had a statistically significant impact on calls to 118500 originating on BT’s network (excluding Metropolitan Areas). This supports the Director’s findings that BT’s conduct (that is, the use of its marketing advantages) has not had a material adverse effect on competition in the telephone DQ services market.

‘Market diversion’ and ‘market expansion’

139. Even if it were accepted that the use of BT’s marketing advantages has had a small, positive effect on DQ calls originating on BT’s network (which, for the reasons stated above, the Director does not necessarily consider to be the case), in the Director’s view, not all of the increment to BT’s share of DQ calls originating on its network would reflect leveraging of its dominant position.

140. This is because, in the Director’s view, the relevant measure is how many DQ users BT has gained who would otherwise have purchased services from competing DQSPs (ie whether BT’s conduct has a ‘market diversion’ effect). Market diversion can be differentiated from a ‘market expansion’ effect which, in this case, would occur if BT’s actions have attracted customers who would otherwise not have used a telephone DQ service. If there is a pure market expansion effect, then the Director considers this would be unlikely to have a material adverse effect on competitors or competition.

141. In this context, the Director considers that the characteristics of consumers who are using DQ services are relevant. Ofcom market research shows that in February 2003, awareness of the introduction of new DQ numbers was around 14 per cent72. Awareness of the introduction of new DQ numbers and withdrawal of legacy DQ numbers was around 25 per cent73. Around 60 per cent of consumers were not aware of any DQ changes74. At this point in time, marketing activity by competing DQSPs is likely to have been less concentrated than in the period closer to 192 switch-off. It is therefore arguable that in publicising its 118500 number on the front of the Phonebook, BT had a ‘first mover’ marketing advantage and could have ‘diverted’ a high proportion of DQ users from using competing DQSPs, had they been aware of such services. It is also arguable that BT’s conduct could have affected ‘inert’ or apathetic DQ users, that is, users who are informed as to the existence of rival DQ numbers, but who are less willing to shop around to obtain the best service (perhaps due to the small number of DQ calls such consumers normally make).

142. The question then arises as to the actual volume of DQ calls that BT’s conduct has had the effect of ‘diverting’ to its 118500. In this regard, it should be noted that the groups least likely to be aware of the introduction of new telephone DQ numbers were over 65’s, DE social grades and the unemployed (these groups also being less likely to make telephone DQ calls15). 83% of regular users (calling DQ on a daily basis) were aware of the introduction of new numbers16. This suggests to the Director that BT’s conduct was primarily capable of affecting low volume DQ users since higher volume DQ users were more likely to be aware of the introduction of new DQ numbers and, accordingly, are less likely to be induced to use BT’s 118500 over competing DQSPs as a result of publicising 118500 on the front of the Phonebook.

143. Evidence provided to the Director confirms that the main source of DQ call volumes (and therefore the key revenue drivers) in the newly liberalised DQ market is likely to be ABC1 adults. For example, one complaint states that it “[X%]". The same complainant carried out specific geographic marketing campaigns “[X%]". Another complainant said that a typical profile of one of its target groups would be “[X%]". As described above, research indicates that such targets are likely to be regular DQ users,
aware of the introduction of new numbers and therefore less likely to be affected by BT’s conduct in relation to the Phonebook.

144. In the Director’s view, even if BT’s conduct can be described as having a small, positive effect on DQ call origination patterns (which, as noted above, the Director does not necessarily consider to be the case) the level of awareness of the introduction of new DQ numbers amongst regular DQ users suggests that there is little evidence to support any market diversion effects, which the Director considers are relevant in assessing the effect of BT’s conduct.

The longer term impact of BT’s conduct

145. As noted above, the complainants have suggested that the nature of the Phonebook may have longer term effects on consumer DQ usage which BT’s voluntary undertakings may have masked. In particular, the complainants argued that because the Phonebook is kept by consumers it is a more permanent and hence more effective advertising medium. The complainants have also argued that, given the prominence of 118500 on the Phonebook, end users will memorise that number and entrench BT’s dominant position in the DQ market.

146. It is apparent that number recognition is crucial to a DQSP’s call volumes. This has been confirmed by evidence provided by BT and the complainants during the Director’s investigation. According to OfTEL market research in August 2003, of the 17 per cent of fixed residential DQ users who said they had used at least one of the new 118 DQ numbers, the majority chose a particular DQ number on the basis of number recognition, rather than on the basis of cost or quality of service\textsuperscript{80}. In addition, and as discussed elsewhere in this decision, as a result of consumer inertia\textsuperscript{192} switch-off was a key time for ‘capturing’ DQ awareness. It is during this period that DQSP advertising has been most concentrated.

147. OfTEL market research indicates that three in five of the 86 per cent of fixed line residential customers who were aware of the introduction of new DQ numbers were able to spontaneously quote a new DQ118 number (approximately half of all adults with a fixed line)\textsuperscript{81}. Amongst the 86 per cent of fixed line residential customers who were aware of the changes, 84 per cent recognised at least one number when prompted (72 per cent of all adults)\textsuperscript{82}. This suggests that consumers are generally aware of the changes and that publicising 118500 on the front of the Phonebook is, in the Director’s view, unlikely to be effective in influencing DQ users in their choice of DQSP, not least because the crucial period for capturing DQ awareness has now passed.

148. In addition, OfTEL market research indicates that only around 40 per cent of consumers keep their Phonebook next to their telephone\textsuperscript{83}. A similar proportion said they keep the Phonebook out of sight (38 per cent) and 10 per cent said they usually throw it away\textsuperscript{84}. This supports the Director’s view that publicising 118500 on the front of the Phonebook is likely to influence only a minority of infrequent DQ users.

149. The Director therefore considers that there is insufficient evidence to conclude that BT’s conduct will have any ongoing material adverse effect on competition in the telephone DQ services market, notwithstanding the fact that the Phonebook is a relatively permanent source of number information compared with other forms of directory products.

\textsuperscript{80} See footnote 63 above, paragraphs 6.17 and 6.18.
\textsuperscript{81} Ibid., paragraph 6.7.
\textsuperscript{82} Ibid., paragraph 6.8.
\textsuperscript{83} See footnote 68 above, paragraph 8.2.
\textsuperscript{84} Ibid.
CONCLUSION

150. Together with supporting market research, the DQ call origination data collected by the Director post-192 switch-off indicate that BT’s use of its advertising advantages has not had any statistically significant effect on consumers’ DQ calling patterns. Even if it were considered that there was a small, positive effect in favour of BT’s 118500 service and that this was attributable to BT’s conduct, the Director does not believe that such a small effect could have a material adverse effect on competition in the telephone DQ services market.

151. The Director has not further considered the Metropolitan Areas for which DQ call origination data over BT’s network was not provided. While these areas are where the majority of calls are likely to originate, his view is that DQ call origination data will be less reliable in these areas and that, based on a priori reasoning, the effect of BT’s conduct in these areas is likely to be less significant.

152. Accordingly, the Director concludes that the conduct of BT in publicising its DQ number on the front of the Phonebook has not had a material adverse effect on competition in the telephone DQ services market. The Director has therefore concluded that BT has not infringed the Chapter II prohibition.
ANNEX
Further discussion of BT’s DQ call origination data

1. This annex contains a more detailed statistical analysis of the results from the sample of call data for DQ calls originating on BT’s network.

Description of the data

2. The Director requested data from BT on volumes of calls to each available telephone DQ service number accessible to BT customers (including legacy DQ numbers such as 192 as well as all DQ118 access code numbers) categorised by each BT geographic residential Phonebook delivery area. For the reasons explained more fully in paragraph 113 of the decision, the Director requested that BT provide call origination data for DQ calls originating on its network for those national area codes that were readily identifiable as being exclusively within one given BT geographic residential Phonebook delivery area (ie excluding national area codes which are included in two or more BT geographic residential Phonebook delivery areas).

3. DQ call origination data was requested for four weeks prior to the switch-off of the 192 service and four weeks directly after switch-off. The data was split into calls from residential and business lines. The data provided by BT for the two four week periods covers 36 national area codes (mostly at the 10k level, for example 012 3456 xxxx) where the Phonebook bearing 118500 had been delivered, and 87 national area codes where it had not. There are approximately 180 residential Phonebook delivery areas. As noted at paragraph 114 of the decision, these sampled areas exclude a number of major Metropolitan centres (including London) where it was more difficult to identify local area codes that were exclusively within one Phonebook delivery area. The Director understands that the choice of local area codes within each Phonebook delivery area was relatively random (ie he does not believe that there has been any sample selection bias). Moreover, given that the DQ call samples were chosen and data requested for a period before the August 192 switch-off, the Director does not believe the reported results could have been influenced by any conscious bias in sample selection. This was prior to the period when the effect of the advertisement would have become noticeable, as the majority of calls at this time were still made to BT’s 192 service.

4. As the Director notes in the decision, the total sample size in the post-192 switch-off data set exceeded \[\times\] million calls. The samples from the individual Phonebook delivery areas were of varying size, with the average size being around \[\times\] calls, and most areas receiving between \[\times\] calls (one delivery area received just under \[\times\] calls). As the sampling method was to find at least one area code exclusively within a Phonebook area, the sample size for each sample area relative to the total number of DQ calls in that area is unknown (although in at least one example, Northern Ireland, all DQ call origination data was collected as this is a single Phonebook delivery area). The Director believes, however, that the call samples from all of the Phonebook delivery areas were sufficiently large, at least in terms of the absolute volume of DQ calls measured in each Phonebook area, to enable him to draw robust conclusions.

Objective of the analysis

5. The objective of the Director’s statistical analysis was to infer, from the DQ call sample provided to the Director by BT, whether there was a difference in BT’s 118500 share of DQ calls originating on BT’s fixed network between different Phonebook delivery areas, excluding Metropolitan Areas (in particular, between areas where the Phonebook bearing 118500 has been delivered and where it has not).

6. The sample data excluded a number of urban areas. However, a priori reasoning points to the conclusion that advertising on the front of the Phonebook would have an equivalent or lesser effect in the excluded Metropolitan Areas compared to (largely non-metropolitan) areas for which DQ call origination data was obtained. This reasoning is explained in more detail in paragraphs 114 and 115 of the decision.
7. Whilst the Director undertook some preliminary analysis of the data provided for the four weeks prior to 192 switch-off, the total DQ call volumes for 118 numbers, including 118500, were sufficiently small to confirm the earlier proposition put to the Director that the crucial period for the measurement of the effect (if any) of publicising BT's 118500 on the front of the Phonebook would be after the switch-off of BT's 192 DQ service.

8. The Director considered that the most informative method of analysing the data was to compare average DQ call shares over BT's network in individual Phonebook delivery areas. In the Director's view this would remove the potential bias associated with different call volumes in different Phonebook delivery areas - each Phonebook delivery area is implicitly given an equal weighting. On the basis of this analysis, the results are as follows:

<table>
<thead>
<tr>
<th>Areas With 118500 On Cover (call share in 36 Phonebook delivery areas)</th>
<th>Areas Without 118500 On Cover (call share in 87 Phonebook delivery areas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean / Average</td>
<td>[X] %</td>
</tr>
<tr>
<td>Median</td>
<td>[X] %</td>
</tr>
<tr>
<td>Minimum</td>
<td>[X] %</td>
</tr>
<tr>
<td>Maximum</td>
<td>[X] %</td>
</tr>
<tr>
<td>Observations</td>
<td>36</td>
</tr>
<tr>
<td>Standard error of sample mean</td>
<td>0.5%</td>
</tr>
<tr>
<td>Confidence interval</td>
<td>[X] %</td>
</tr>
<tr>
<td>- lower / upper bound</td>
<td>(at 95% confidence)</td>
</tr>
</tbody>
</table>

9. In drawing conclusions about the population from the sample data, it is necessary to consider the potential for sampling error. That is, the Director must also account for the likelihood that the average shares of DQ calls originating on BT's network from the sample data differ from the average call shares from all DQ calls originating on BT's network over the relevant four week period. The Director has therefore also taken into account the standard errors of the calculated averages, as these provide an indication of the likely spread of the distribution of all possible sample averages. These standard errors are used to calculate the confidence intervals for the mean in the table.

10. The constructed confidence intervals for the average DQ call shares originating on BT's network in the two types of Phonebook delivery area overlap, as identified in the table A.2 above. This provides an indication that random sampling error may be the reason for the measured 1 per cent average difference in average DQ call shares. To confirm this, a statistical test of the difference between the two means was undertaken as follows. The null hypothesis was that the difference between the two means in Table A.2 was equal to, or less than, zero. The alternative hypothesis was that the difference was greater than zero – that is, that BT's share of calls was higher in the areas that the Phonebook bearing 118500 had been delivered. To test which hypothesis was more accurate, a test statistic was calculated based on the differences in the calculated means and the variability of the samples. The calculated test statistic is then compared with the 'critical value' for the test, where the critical value is the cut-off point for accepting the null hypothesis. The critical value is based on the probability of making an error in rejecting the null hypothesis due to sampling variability, and, in this test, is assessed at a 5 per cent level of significance. The result of the test was that the test statistic was lower than the critical value, and hence, the null hypothesis of no difference between the average call shares cannot be rejected. The Director therefore cannot conclude that the share of calls to 118500 is higher in the areas where the Phonebook bearing 118500 has, and has not, been delivered.
11. The data supporting this result is as follows.

<table>
<thead>
<tr>
<th>Areas With 118500 On Cover</th>
<th>Areas Without 118500 On Cover</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td><img src="image" alt="Mean" /></td>
</tr>
<tr>
<td>Sample variance</td>
<td><img src="image" alt="Sample variance" /></td>
</tr>
<tr>
<td>Observations</td>
<td><img src="image" alt="Observations" /></td>
</tr>
<tr>
<td>Hypothesized mean difference</td>
<td><img src="image" alt="Hypothesized mean difference" /></td>
</tr>
<tr>
<td>Calculated t statistic</td>
<td><img src="image" alt="Calculated t statistic" /></td>
</tr>
<tr>
<td>t critical value, one-tail</td>
<td><img src="image" alt="t critical value, one-tail" /></td>
</tr>
<tr>
<td>As t statistic &lt; t critical, cannot reject null hypothesis of no mean difference.</td>
<td><img src="image" alt="As t statistic &lt; t critical, cannot reject null hypothesis of no mean difference." /></td>
</tr>
<tr>
<td>P(T&lt;=t), one-tail</td>
<td><img src="image" alt="P(T&lt;=t), one-tail" /></td>
</tr>
</tbody>
</table>

12. The Director believes this result is supported by the following chart, which plots the frequency of various shares of DQ calls originating on BT’s network across the sampled Phonebook delivery areas (excluding of course Metropolitan Areas). The frequency curves (which are normalised to reflect the different number of Phonebook delivery areas with and without the 118500 cover) appear very similar for both types of areas.

13. For the reasons explained more fully in paragraph 138 of the decision, the Director also considered the results for DQ calls to 118500 originating on BT’s residential analogue exchange lines. The results of this analysis were very similar to those reported above. On this basis, the Director also concludes that publicising 118500 on the front cover of the Phonebook has had no statistically reliable effect when considering this narrower customer segment.
Table A.4: Calls to 118500 originating on BT’s residential analogue exchange lines

<table>
<thead>
<tr>
<th></th>
<th>Areas With 118500 On Cover (call share in 36 Phonebook delivery areas)</th>
<th>Areas Without 118500 On Cover (call share in 87 Phonebook delivery areas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>[X] %</td>
<td>[X] %</td>
</tr>
<tr>
<td>Median</td>
<td>[X] %</td>
<td>[X] %</td>
</tr>
<tr>
<td>Minimum</td>
<td>[X] %</td>
<td>[X] %</td>
</tr>
<tr>
<td>Maximum</td>
<td>[X] %</td>
<td>[X] %</td>
</tr>
<tr>
<td>Observations</td>
<td>36</td>
<td>87</td>
</tr>
<tr>
<td>Standard error of mean</td>
<td>0.58%</td>
<td>0.36%</td>
</tr>
<tr>
<td>Confidence interval</td>
<td>[X] %</td>
<td>[X] %</td>
</tr>
<tr>
<td>- lower / upper bound (at 95% confidence)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>