Annex 19

Sources of Evidence

- A19.1 We have noted throughout the document the evidence we have relied upon for our analysis and how we have relied upon that evidence. This annex provides a list of the main sources of evidence used and where possible the web links where the evidence used is published online. We also list all respondents to our stakeholder workshops and to our formal information requests.
- A19.2 While the Annex lists the main evidence we have relied upon, the list is for convenience only and is not intended to be exhaustive.

List of respondents to our October 2013 stakeholder workshop

- A19.3 On 23 October 2013, we held a stakeholder workshop to advise industry that we were commencing this review and allow stakeholders an early opportunity to discuss this process and input into our preliminary thinking. The workshop covered the background leading to this review, the process and milestones and Ofcom's preliminary views and questions for stakeholders. Slides presented by Ofcom during the workshop are available at: http://stakeholders.ofcom.org.uk/consultations/mobilecallterm/workshop2015-2018/
- A19.4 We received five written responses to our workshop from the following stakeholders:
 - BT
 - H3G
 - EE
 - Telefónica
 - Virgin Media
- A19.5 Non-confidential responses have been published and are available at http://stakeholders.acmpub.intra.ofcom.local/telecoms/policy/mobile-policy/mobile-call-termination-review-2015-2018/

List of respondents to our January 2014 stakeholder workshop

- A19.6 On 23 January 2014 we held a workshop that was specific to our cost modelling of MTRs and provided stakeholders with an early opportunity to comment on the direction of modelling. Slides presented by Ofcom during the workshop are available at: http://stakeholders.ofcom.org.uk/telecoms/policy/mobile-policy/mobile-call-termination-review-2015-2018/mct-review-2015-18-january2014/
- A19.7 We received three written responses to our workshop from the following stakeholders:
 - BT

- EE
- H3G
- A19.8 Non-confidential responses have been published and are available at http://stakeholders.ofcom.org.uk/telecoms/policy/mobile-policy/mobile-call-termination-review-2015-2018/responses-jan-2014/

Information gathering using statutory powers under section 135 of the Act

- A19.9 During this pre-consultation phase, we have issued a series of notices under section 135 of the Act requiring various CPs to provide specified information as set out in the notice. These information requests are listed below:
- A19.10 Information requests of 8 November 2013, 14 February 2014 and 18 March 2014 regarding the provision of data to inform our cost modelling for the 2014 MCT model. Requests addressed to and responses received from:
 - EE
 - H3G
 - Telefónica
 - Vodafone
- A19.11 Information requests to identify MCPs which hold mobile number ranges for which they provide mobile voice call termination services and for which they set an MTR, for the purposes of our market definition and SMP analysis. The information request was sent to all companies registered as having been allocated a mobile number range by Ofcom. The requests were sent in several tranches to the MCPs listed below.
 - Information request of 21 November 2013 this information request was sent
 also for the purposes of an Ofcom own-initiative enforcement programme into
 compliance by MCPs with SMP conditions M1 and M4 set out in Annex 1 to the
 March 2011 Statement, as discussed in paragraph 5.104. Requests addressed to
 and, except where otherwise indicated, responses received from:
 - o 24 Seven Communications Ltd
 - o BT Plc
 - o Callax Ltd1
 - o Cheers International Sales Ltd
 - o Core Telecom Ltd
 - o Euro Thai Exchange Process Company Ltd²

¹ As explained in paragraph A8.9 of Annex 8, we did not receive a response from this MCP.

- Icron Network Ltd
- o IV Response Ltd
- Lycamobile UK Ltd
- o Magrathea Telecommunications Ltd
- Mars Communications Ltd
- o Mundio Mobile Ltd
- Nationwide Telephone Assistance Ltd
- o Oxygen8 Communications UK Ltd
- o QX Telecom Ltd
- o Resilient Networks Plc
- o Sky Telecom Ltd
- Sound Advertising Ltd
- Stour Marine Ltd
- Subhan Universal Ltd
- Swiftnet Ltd
- Teledesign Ltd
- o Telephony Services Ltd
- o TG Support Ltd
- o Truphone Ltd
- Information requests of 29 November 2013, 2 December 2013, 3 December 2013, 6 December 2013, 12 February 2014, 26 February and 9 April 2014. Requests addressed to and, except where otherwise indicated, responses received from the following MCPs:
 - o 08Direct Ltd
 - o Ace Call Ltd
 - Airwave Solutions Ltd
 - Alliance Technologies LLC³

² Euro Thai Exchange Process Company Ltd provided the information requested in our draft section 135 request on a voluntary basis.

3 As explained in paragraph A8.9 of Annex 8, we did not receive a response from this MCP.

- o Andrews & Arnold Ltd
- o (AQ) Ltd
- o Bellingham Telecommunications Ltd
- o BT Onephone Ltd
- o CFL Communications Ltd
- o Citrus Telecommunications Ltd
- o Cloud9 Communications Ltd
- o Compatel Ltd
- o Confabulate Ltd
- o Core Communication Services Ltd
- o Eclipse Tel Ltd
- o Edge Telecom Ltd
- o Equiinet Ltd
- o Esendex Ltd
- o FleXTel Ltd
- o Globecom International Ltd
- o Guernsey Airtel Ltd
- o Hay Systems Ltd
- o Interact Solutions Ltd
- o Invomo Ltd
- o IPV6 Ltd
- o Jersey Airtel Ltd
- o JSC Ingenium (UK) Ltd
- o JT (Guernsey) Ltd
- o JT (Jersey) Ltd
- LegendTel LLC⁴
- o Lifecycle Software Ltd

⁴ As explained in paragraph A8.9 of Annex 8, we did not receive a response from this MCP.

- o Limitless Mobile Ltd
- o Lleidanet Services Telematics Ltd
- o Manx Telecom Ltd
- o Marathon Telecom Ltd
- o Moonshado Inc⁵
- o Netfuse Telecom Ltd
- o Nextgen Mobile Ltd
- o Nodemax Ltd
- Orca Digital Ltd
- o Premium O Ltd
- o Premium Routing GmbH
- o Proton Telecom Ltd
- o Rexcom Tech Ltd
- o Spacetel UK Ltd
- o SSE Energy Supply Ltd
- o Sure (Guernsey) Ltd
- o Sure (Isle of Man) Ltd
- o Sure (Jersey) Ltd
- o Synectiv Ltd
- o TalkTalk Communications Ltd
- o Telecom2 Ltd
- o Telecom North America Mobile Inc
- o Teleena UK Ltd
- o Telesign Mobile Ltd
- o Teleware Plc
- o Test2date BV6

 $^{^{5}}$ As explained in paragraph A8.9 of Annex 8, we did not receive a response from this MCP. 6 As explained in paragraph A8.9 of Annex 8, we did not receive a response from this MCP.

- o Tismi BV
- o Titanium Ltd
- o UK Broadband Ltd
- o Virgin Mobile Telecoms Ltd
- o Voicetec Systems Ltd
- o Vortex Telecom Ltd
- Voxbone SA
- o Wavecrest (UK) Ltd
- o Zap Communications Ltd
- Information requests of 6 March 2014 regarding the provision of data to inform our consideration of what the relevant cost standard would be in the event that significant market power is found in the relevant markets and a charge control is considered an appropriate remedy. Requests addressed to and responses received from:
 - o ASDA Stores Ltd
 - Core Communication Services Ltd
 - o EE
 - o Giffgaff Ltd
 - o H3G
 - o Lycamobile UK Ltd
 - o Mundio Mobile Ltd
 - o TalkTalk Communications Ltd
 - o Telefónica
 - o Tesco Mobile Ltd
 - o Truphone Ltd
 - o Virgin Media
 - o Vodafone

Ofcom documents

A19.12 Oftel, Review of the charge control on calls to mobiles, A Statement issued by the Director General of Telecommunications on competition in mobile voice call termination and consultation on proposals for a charge control, 26 September 2001. http://www.ofcom.org.uk/static/archive/oftel/publications/mobile/ctm0901.pdf

- A19.13 Economic depreciation in the Long Run Incremental Cost Model, Oftel 2001 http://www.ofcom.org.uk/static/archive/oftel/publications/mobile/depr0901.htm
- A19.14 Ofcom, Wholesale Mobile Voice Call Termination, statement, 1 June 2004. http://stakeholders.ofcom.org.uk/binaries/consultations/mobile_call_termination/statement/statement_on_Wholesale_Mobi1.pdf
- A19.15 Ofcom, Better Policy Making, Ofcom's approach to Impact Assessment, 21 July 2005.

 http://stakeholders.ofcom.org.uk/binaries/consultations/better-policy-making/Better_Policy_Making.pdf
- A19.16 Ofcom, *Mobile call termination*, statement, 27 March 2007. http://stakeholders.ofcom.org.uk/binaries/consultations/mobile_call_term/statement/statement.pdf
- A19.17 Ofcom, Dispute between Mapesbury Communications and T-Mobile about mobile termination rates, determination and statement, 20 March 2009.

 http://www.ofcom.org.uk/consult/condocs/mapesbury_tmobile/statement/mcom_det_er.pdf
- A19.18 Ofcom, *Dispute between Cable & Wireless and T-Mobile about mobile termination rates*, final determination and statement, 20 May 2009.

 http://stakeholders.ofcom.org.uk/binaries/enforcement/competition-bulletins/closed-cases/all-closed-cases/cw_01004/cwdispute.pdf
- A19.19 Ofcom, Wholesale mobile voice call termination, Preliminary consultation on future regulation, consultation, 20 May 2009.

 http://stakeholders.ofcom.org.uk/binaries/consultations/mobilecallterm/summary/mobile_call_term.pdf
- A19.20 Ofcom, Wholesale mobile voice call termination, Market Review, Volume 2 Main consultation, consultation, 1 April 2010.

 http://stakeholders.ofcom.org.uk/binaries/consultations/wmctr/summary/wmvct_consultation.pdf
- A19.21 Ofcom, Determination to resolve a dispute between Stour Marine and O2 about termination rates, final determination, 11 June 2010.

 http://stakeholders.ofcom.org.uk/consultations/draft deter stour marine o2/final determination/
- A19.22 Ofcom, Statement on variation of 900 MHz and 1800 MHz Wireless Telegraphy Act licences, statement, 6 January 2011.

 http://stakeholders.ofcom.org.uk/binaries/consultations/900-1800mhz-wireless-telegraphy/statement/Statement.pdf.
- A19.23 Ofcom, *Wholesale mobile voice call termination*, statement, 15 March 2011. http://stakeholders.ofcom.org.uk/binaries/consultations/mtr/statement/MCT_statement.pdf
- A19.24 Ofcom, *Price controls for wholesale ISDN30 services, Consultation on the form and level of price controls on Openreach wholesale ISDN30 services*, consultation, 1 April 2011.

http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf

- A19.25 Ofcom, Wholesale mobile call termination: Guidance on dispute resolution in relation to fair and reasonable charges, statement, 5 April 2011. http://stakeholders.ofcom.org.uk/binaries/consultations/mtr/statement/guidance.pdf
- A19.26 Ofcom, Modification of SMP conditions contained in Ofcom's Notification under section 48(1) and 79(4) of the Communications Act 2003 of 15th March 2011, 25 October 2011.

 http://stakeholders.ofcom.org.uk/binaries/consultations/mtr/MCT SMP Modification http://stakeholders.ofcom.org.uk/binaries/c
- A19.27 Ofcom, Explanatory Note accompanying Ofcom's Modification of the Mobile Call Termination SMP Conditions, 25 October 2011.

 http://stakeholders.ofcom.org.uk/binaries/consultations/mtr/MCT_SMP_Modification-note.pdf
- A19.28 Ofcom, Revised MCT Cost Model accompanying Modification to SMP Conditions. http://www.ofcom.org.uk/static/wmvct-model/model-2011.html
- A19.29 Ofcom, Mobile call termination, Adoption of revisions to SMP Conditions in accordance with the directions of the Competition Appeal Tribunal of 8 May 2012, 10 May 2012.

 http://stakeholders.ofcom.org.uk/binaries/consultations/mtr/statement/smp_conditions.pdf
- A19.30 Ofcom, Assessment of future mobile competition and award of 800 MHz and 2.6 GHz, statement, 24 July 2012.

 http://stakeholders.ofcom.org.uk/binaries/consultations/award-800mhz/statement/statement.pdf
- A19.31 Ofcom, The award of 800 MHz and 2.6 GHz spectrum Annexes, Information Memorandum, 24 July 2012.

 http://stakeholders.ofcom.org.uk/binaries/consultations/award-800mhz/statement/IM2.pdf
- A19.32 Ofcom, Decision to vary Everything Everywhere's 1800 MHz spectrum licences to allow use of LTE and WiMax technologies, summary, 21 August 2012. http://stakeholders.ofcom.org.uk/consultations/variation-1800mhz-lte-wimax/statement
- A19.33 Ofcom, Review of the fixed narrowband services markets, Consultation on the proposed markets, market power determinations and remedies, consultation, 5 February 2013.

 http://stakeholders.ofcom.org.uk/binaries/consultations/nmr-2013/summary/NMR Consultation.pdf
- A19.34 Ofcom, *Business connectivity market review final statement*, 28 March 2013. http://stakeholders.ofcom.org.uk/consultations/business-connectivity-mr/final-statement/
- A19.35 Ofcom, Statement on the Requests for Variation of 900 MHz, 1800 MHz and 2100 MHz Mobile Licences, statement, 9 July 2013.

 http://stakeholders.ofcom.org.uk/binaries/consultations/variation-900-1800-2100/statement/statement.pdf

- A19.36 Ofcom, Fixed access market reviews: Approach to setting LLU and WLR Charge Controls, consultation, 11 July 2013.

 http://stakeholders.ofcom.org.uk/binaries/consultations/llu-wlr-cc-13/summary/LLU_WLR_CC_2014.pdf
- A19.37 Ofcom, Review of the fixed narrowband services markets, Statement on the proposed markets, market power determinations and remedies, statement, 26 September 2013.

 http://stakeholders.ofcom.org.uk/binaries/consultations/nmr-2013/statement/Final_Statement.pdf
- A19.38 Ofcom, *Annual licence fees for 900 MHz and 1800 MHz spectrum*, consultation, 10 October 2013. http://stakeholders.ofcom.org.uk/binaries/consultations/900-1800-mhz-
 - fees/summary/900-1800-fees.pdf.
- A19.39 Ofcom, *The National Telephone Numbering Plan*, 13 December 2013. http://stakeholders.ofcom.org.uk/binaries/telecoms/numbering/Numbering_Plan_Decc_2013.pdf
- A19.40 Ofcom, *Draft MCT Model*, 17 January 2014. http://stakeholders.ofcom.org.uk/telecoms/policy/mobile-policy/mobile-call-termination-review-2015-2018/mct-review-2015-18-january2014/draft-MCT-model/
- A19.41 Ofcom, Fixed access market reviews: wholesale local access, wholesale fixed analogue exchange lines, ISDN2 and ISDN30 Volume 2: LLU and WLR Charge Controls, draft statement, 19 May 2014.

 http://stakeholders.ofcom.org.uk/binaries/telecoms/ga/fixed-access-market-reviews-2014/draftstatement/volume2.pdf
- A19.42 Ofcom, Fixed access market reviews: wholesale local access, wholesale fixed analogue exchange lines, ISDN2 and ISDN30 Annexes, draft statement, 19 May 2014.

 http://stakeholders.ofcom.org.uk/binaries/telecoms/ga/fixed-access-market-reviews-2014/draftstatement/annexes.pdf

Competition Commission documents

- A19.43 Vodafone, O2, Orange and T-Mobile Reports on references under section 13 of the Telecommunications Act 1984 on the charges made by Vodafone, O2, Orange and T-Mobile for terminating calls from fixed and mobile networks, Volume 1: Summary and Conclusions, December 2002.

 http://www.ofcom.org.uk/static/archive/oftel/publications/mobile/ctm 2003/ctm1.pdf
- A19.44 Competition Commission report: Stansted Airport Ltd Q5 price control review, 'Appendix L: Cost of Capital', 23 October 2008. http://www.caa.co.uk/docs/5/ergdocs/ccstanstedl.pdf
- A19.45 Reference under section 193 of the Communications Act 2003: British Telecommunications plc v Office of Communications (case 1180/3/3/11), Everything Everywhere Limited v Office of Communications (case 1181/3/3/11), Hutchison 3G UK Limited v Office of Communications (case 1182/3/3/11), Vodafone Limited v Office of Communications (case 1183/3/3/11) and Telefónica UK Limited, Determination, 9 February 2012.

http://www.catribunal.org.uk/files/1.1180-83_MCT_Determination_Excised_090212.pdf

A19.46 Northern Ireland Electricity Limited price determination, A reference under Article 15 of the Electricity (Northern Ireland) Order 1992, Final determination, 26 March 2014 ('the 2014 NIE Final Determination').

https://assets.digital.cabinet-

office.gov.uk/media/535a5768ed915d0fdb000003/NIE Final determination.pdf.

Competition Appeal Tribunal judgments

- A19.47 British Telecommunications plc v Office of Communications (case 1180/3/3/11), Everything Everywhere Limited v Office of Communications (case 1181/3/3/11), Hutchison 3G UK Limited v Office of Communications (case 1182/3/3/11), Vodafone Limited v Office of Communications (case 1183/3/3/11) and Telefónica UK Limited ([2012] CAT 11), judgment of the CAT of 3 May 2012. http://www.catribunal.org.uk/files/1180-83 MCT_Judgment 030512.pdf
- A19.48 British Telecommunications plc v Office of Communications (case 1180/3/3/11), Everything Everywhere Limited v Office of Communications (case 1181/3/3/11), Hutchison 3G UK Limited v Office of Communications (case 1182/3/3/11), Vodafone Limited v Office of Communications (case 1183/3/3/11) and Telefónica UK Limited ([2012] CAT 11), order of the CAT of 8 May 2012. http://www.catribunal.org.uk/files/1180-83_MCT_Order_080512.pdf
- A19.49 British Telecommunications plc (Wholesale Broadband Access Charge Control) v Office of Communications (case 1187/3/3/11), judgment of the CAT of 22 June 2012.

http://www.catribunal.org.uk/237-7278/1187-3-3-11-British-Telecommunications-plc-Wholesale-Broadband-Access-Charge-Control.html

Court of Appeal judgments

- A19.50 Hutchison 3G UK Limited V Ofcom [2008] CAT 11, 20 May 2008. http://www.catribunal.org.uk/files/Jdg CAT11 1083 H3G 200508.pdf
- A19.51 Hutchison 3G UK Ltd v Office of Communications [2009] EWCA Civ 683, 16 July 2009.

http://catribunal.org/files/CofA_Judgment_1083_H36_16.07.09.pdf

A19.52 Everything Everywhere Limited v Competition Commission [2013] EWCA Civ 154, 6 March 2013.

http://www.catribunal.org.uk/files/1180-

83 MCT Judgment Of The CofA 060313.pdf.

EC documents

A19.53 Directive 2002/19/EC of the European Parliament and of the Council of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities (as amended by Directive 2009/140/EC), 7 March 2002 ('the Access Directive').

http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02002L0019-20091219

A19.54 Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services (as amended by Directive 2009/140/EC), 7 March 2002 ('the Framework Directive').

http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02002L0021-20091219&qid=1399985618659&from=EN

A19.55 Directive 2002/22/EC of the European Parliament and of the Council of 7 March 2002 on universal service and users' rights relating to electronic communications networks and services, 7 March 2002 ('Universal Service Directive').

http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32002L0022&qid=1398787826393&from=EN

A19.56 Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services (2002/C165/03), 11 July 2002 ('the SMP Guidelines').

http://eur-lex.europa.eu/legal-

content/EN/TXT/PDF/?uri=CELEX:52002XC0711(02)&qid=1399986405910&from=EN

A19.57 Commission Staff Working Document, Explanatory note, Accompanying document to the Commission Recommendation on Relevant Product and Service Markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications and services (Second Edition), 13 November 2007 ('Explanatory Note to the 2007 EC Recommendation').

https://ec.europa.eu/digital-agenda/sites/digital-agenda/files/sec_2007_1483_2_0.pdf

A19.58 Commission Recommendation of 17 December 2007 on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services (2007/879/EC), 17 December 2007 ('2007 EC Recommendation').

http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32007H0879&qid=1399986405910&from=EN

A19.59 Commission Recommendation of 7 May 2009 on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU (2009/396/EC), 7 May 2009 ('2009 EC Recommendation').

http://eur-

lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:124:0067:0074:EN:PDF

- A19.60 Commission Staff Working Document accompanying the Commission Recommendation on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU, Explanatory note, 7 May 2009 ('Explanatory note to the 2009 EC Recommendation').
 - http://ec.europa.eu/governance/impact/ia_carried_out/docs/ia_2009/sec_2009_060 0_en.pdf
- A19.61 Regulation (EC) No 1211/2009 of the European Parliament and of the Council of 25 November 2009 establishing the Body of European Regulators for Electronic

Communications (BEREC) and the Office, 25 November 2009 ('the BEREC Regulation').

http://eur-

lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:337:0001:0010:EN:PDF

- A19.62 Draft revised EC Recommendation on relevant markets, 24 March 2014. Available at: http://ec.europa.eu/digital-agenda/en/news/commission-requests-berec-opinion-draft-revised-recommendation-relevant-markets
- A19.63 Draft Explanatory note to the EC's Draft Revised Recommendation on Relevant Markets, 24 March 2014. Available at:

 http://ec.europa.eu/digital-agenda/en/news/commission-requests-berec-opinion-draft-revised-recommendation-relevant-markets
- A19.64 The Treaty on European Union and the Treaty on the Functioning of the European Union (consolidated versions), 30 March 2010.

 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2010:083:FULL:EN:PDF
- A19.65 Judgement of 24 October 1996, Viho v Commission (Case C-73/95 P [1996] ECR I-5447.

 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:61995CJ0073:EN:PDF

UK Legislation

- A19.66 Communications Act 2003 ('the Act'). http://www.legislation.gov.uk/ukpga/2003/21/contents
- A19.67 Competition Act 1998. http://www.legislation.gov.uk/ukpga/1998/41/contents
- A19.68 Enterprise Act 2002. http://www.legislation.gov.uk/ukpga/2002/40/contents

Academic literature

- A19.69 Khan, 1993, The Economics of Regulation: Principles and Institutions (5th printing), The MIT Press.
- A19.70 Rochet, J-C and Tirole, J (2004), 'Defining two-sided markets', mimeo, University of Toulouse.
- A19.71 Armstrong, M & Wright, J (2009) 'Mobile Call Termination', Economic Journal, Royal Economic Society, vol. 119(538).
- A19.72 Genakos, C. and T. Valletti, 2011, 'Testing the "Waterbed" Effect in Mobile Telephony', Journal of the European Economic Association, Vol:9, ISSN:1542-4774, Pages:1114-1142.
- A19.73 Genakos, C. and T. Valletti, 2011, 'Seesaw in the Air: Interconnection Regulation and the Structure of Mobile Tariffs', Information Economics and Policy, 23(2), 159-170
- A19.74 Brealey, Myers and Allen, 2013, Principles of Corporate Finance, 11th Edition.

A19.75 Genakos, C. and T. Valletti, 2014, 'Evaluating a decade of mobile termination rate regulation', December 2013. Working paper available at:

<u>ftp://www.ceistorvergata.it/repec/rpaper/RP303.pdf</u>

Ofcom research

- A19.76 Ofcom, *The Communications Market 2007*, '4 Telecommunications', 23 August 2007. http://stakeholders.ofcom.org.uk/binaries/research/cmr/telecoms1.pdf
- A19.77 Jigsaw Research (on behalf of Ofcom), 'Mobile Calling Patterns Research', Annex 10.2 of *Wholesale mobile voice call termination* (consultation), 20 May 2009. http://stakeholders.ofcom.org.uk/binaries/consultations/mobilecallterm/annexes/annex10 2.pdf
- A19.78 Ofcom, Ofcom Technology Tracker Wave 1 2011 Main Set, published 5 May 2011.

 http://www.ofcom.org.uk/static/marketdataresearch/statistics/main_set.pdf
- A19.79 Ofcom, *The Consumer Experience of 2012, Telecoms, internet, digital broadcasting and post*, policy evaluation report, 8 January 2013.

 http://stakeholders.ofcom.org.uk/binaries/research/consumer-experience/tce-12/Consumer_Experience_Policy_1.pdf
- A19.80 Ofcom, Communications Market Report 2013, 1 August 2013. http://stakeholders.ofcom.org.uk/binaries/research/cmr/cmr13/2013 UK CMR.pdf
- A19.81 Ofcom, *Technology Tracker Wave 2 2013*, published September 2013. http://stakeholders.ofcom.org.uk/binaries/research/statistics/2013Sept/Ofcom_Technologyw2-2013.pdf
- A19.82 Ofcom, Infrastructure Report, 2013 Update, 24 October 2013 (updated on 6 December 2013).

 http://stakeholders.ofcom.org.uk/binaries/research/telecoms-research/infrastructure-report/IRU 2013.pdf
- A19.83 Ofcom, *'Bill Shock' in the contract mobile phone market*, online research report, November 2013.

 http://stakeholders.ofcom.org.uk/binaries/research/telecoms-research/bill-shock/Ofcom-Billshock-2013.pdf
- A19.84 Ofcom, Ofcom Technology Tracker Wave 3 2013, published January 2014. http://stakeholders.ofcom.org.uk/binaries/research/statistics/2014Jan/Ofcom_Technology Tracker data tables for publication Wave 3 2013.pdf
- A19.85 Ofcom, *The Consumer Experience of 2013*, January 2014 http://stakeholders.ofcom.org.uk/binaries/research/consumer-experience/tce-13/TCE_Research_final.pdf
- A19.86 Ofcom, *Technology Tracker data tables Wave 1 2014*, published April 2014. http://stakeholders.ofcom.org.uk/binaries/research/statistics/2014apr/2014w1.pdf
- A19.87 Ofcom, *Telecommunications market data tables Q4 2013*, 24 April 2014. http://stakeholders.ofcom.org.uk/binaries/research/cmr/telecoms/Q4-2013.pdf

Website articles

A19.88 Ofcom (www.ofcom.org.uk)

- News Releases, Ofcom announces winners of the 4G mobile auction, http://media.ofcom.org.uk/2013/02/20/ofcom-announces-winners-of-the-4g-mobile-auction/
- Telecoms numbering, Proposed Numbering Withdrawals, http://stakeholders.ofcom.org.uk/telecoms/numbering/proposed-withdrawals/
- Analyst relations, Regulated Prices, http://media.ofcom.org.uk/analysts/regulated-prices/
- Enforcement, Ofcom own initiative enforcement programme into wholesale mobile call termination rates, CW/ 01115/11/13, http://stakeholders.ofcom.org.uk/enforcement/competition-bulletins/open-cases/all-open-cases/cw_01115/

A19.89 O2 (www.O2.co.uk)

- Pay and Go, http://www.o2.co.uk/tariffs/payandgo
- Help and Support: Pay and Go, http://www.o2.co.uk/help/pay-and-go/pay-and-go-go-go
- O2 first to switch on new superfast 3G 900 MHz network, http://news.o2.co.uk/?press-release=o2-first-to-switch-on-new-superfast-3g-900mhz-network
- TU Go, http://www.o2.co.uk/apps/tu-go

A19.90 Orange (<u>www.orange.co.uk</u>)

• Tiny Top Ups, http://more-from.orange.co.uk/activate/tiny-top-ups/

A19.91 EE (<u>www.ee.co.uk</u>)

- Sharer Bundles, http://explore.ee.co.uk/shared-4gee-plans
- EE Doubling 4G Network speeds and pushing the pace of UK mobile innovation, https://explore.ee.co.uk/our-company/newsroom/ee-doubling-4g-network-speeds-and-pushing-the-pace-of-uk-mobile-innovation.

A19.92 Vodafone (www.vodafone.co.uk)

 Vodafone 4G: Signal and Frequencies Explained, http://blog.vodafone.co.uk/2013/11/05/vodafone-4g-signal-and-frequencies-explained/

A19.93 Three (www.three.co.uk)

Skype, http://support.three.co.uk/SRVS/CGI-BIN/WEBISAPI.DLL?Command=New,Kb=Mobile,Ts=Mobile,T=Article,varset_cat=internetapps,varset_subcat=3585,Case=obi(3843)

A19.94 TalkTalk (<u>www.talktalk.co.uk</u>)

- 100 Mobile Minutes Boost, http://sales.talktalk.co.uk/product/boost/11719/100-mobile-minutes-boost
- Unlimited Mobile Minutes Boost, <u>http://sales.talktalk.co.uk/product/boost/11746/unlimited-mobile-minutes-boost</u>
- TalkTalk launch great value mobile calls product in response to Ofcom cuts in Mobile Termination Rates, http://www.talktalkgroup.com/press/press-releases/2011/15-03-2011.aspx

A19.95 BT, Home products and services (<u>www.productsandservices.bt.com</u>)

 Phone and Calling Plans, http://www.productsandservices.bt.com/products/landline/packages

A19.96 Sky (<u>www.sky.com</u>)

• Sky Talk, http://www.sky.com/products/broadband-talk/talk/features/

A19.97 Virgin Media (<u>www.virginmedia.com</u>)

Home phone talk plans, http://store.virginmedia.com/phone/about-virgin-media-fibre-optic/index.html

A19.98 Plusnet (www.plus.net)

Call Costs, http://www.plus.net/home-broadband/tariffs/

A19.99 Post Office (www.postoffice.co.uk)

• HomePhone, http://www.postoffice.co.uk/home-phone

A19.100 WayBack Machine (http://archive.org/web/)

- (Virgin Media) Phone,
 http://web.archive.org/web/20110314162017/http://shop.virginmedia.com/phone.
 httml [Archive date 14 March 2011]
- (Plusnet) Broadband & Home Phone, http://web.archive.org/web/20110308145537/http://www.plus.net/residential/bundles.shtml [Archive date 8 March 2011]
- (Sky) Broadband & Talk, http://web.archive.org/web/20110312095648/http://www.sky.com/shop/broadban-d-talk/ [Archive date 12 March 2011]
- (Post Office) Home Phone, http://web.archive.org/web/20101227005332/http://www2.postoffice.co.uk/broadband-phone/home-phone-broadband/home-phone [Archive date 27 December 2010]
- (BT) Home phone features, http://web.archive.org/web/20110322030855/http://www.productsandservices.bt.c

<u>om/consumerProducts/displayTopic.do?topicId=31678</u> [Archive date 22 March 2011]

 (Orange) Orange broadband, http://web.archive.org/web/20110314133157/http://shop.orange.co.uk/broadband/ # [Archive date 14 March 2011]

A19.101 Skype (www.skype.com)

• Features, http://www.skype.com/en/features/#calling

A19.102 About.com (www.about.com)

How many megabytes for one minute of conversation?
 http://voip.about.com/od/voipbandwidth/f/How-Much-Of-My-Mobile-Data-Plan-Does-Voip-Consume.htm

A19.103 OpenCloud (www.opencloud.com)

 OpenCloud survey: Mobile users show OTT indifference, http://www.opencloud.com/news/opencloud-survey-mobile-users-show-ott-indifference/

A19.104 Tech Radar (www.techradar.com)

• Free Facebook Messenger VoIP calls land on UK Android app, report claims, http://www.techradar.com/news/software/applications/free-facebook-messenger-voip-calls-now-hitting-uk-android-app-report-claims-1141221

A19.105 Google Play (https://play.google.com)

 Facebook Messenger, https://play.google.com/store/apps/details?id=com.facebook.orca&hl=en_GB

A19.106 Reuters (<u>www.reuters.com</u>)

 WhatsApp to add voice calls after Facebook acquisition, http://www.reuters.com/article/2014/02/24/us-mobile-world-whatsapp-idUSBREA1N0PT20140224

A19.107 Appleinsider (www.appleinsider.com)

• iOS 7 beta: FaceTime Audio brings built-in VoIP, free long distance calling to iPhone, http://appleinsider.com/articles/13/06/11/ios-7-beta-facetime-audio-could-deal-blow-to-telecoms-with-free-long-distance-calling

A19.108 Companies House (http://www.companieshouse.gov.uk/)

A19.109 T-Mobile Brings Voice over LTE to Seattle,

http://multimediacapsule.thomsonone.com/t-mobileusa/t-mobile-brings-voice-over-lte-to-seattle

A19.110 AT&T (www.att.com)

AT&T HD Voice, http://www.att.com/shop/wireless/services/hd-voice.html#fbid=Tx36hSk17_G

A19.111 The Guardian (www.theguardian.com)

 EE launches UK's first 4G mobile network, http://www.theguardian.com/technology/2012/oct/29/ee-launches-uk-4g-mobile-network

A19.112 TeleAnalysis (www.teleanalysis.com)

40 operators to deploy VoLTE, http://www.teleanalysis.com/uncategorized/40-operators-in-different-stages-of-volte-deployment-4613.html

A19.113 Bank of England (www.bankofengland.co.uk)

 Monetary Policy Framework, http://www.bankofengland.co.uk/monetarypolicy/Pages/framework/framework.asp
 http://www.bankofengland.co.uk/monetarypolicy/Pages/framework/framework.asp
 http://www.bankofengland.co.uk/monetarypolicy/Pages/framework/framework.asp
 http://www.bankofengland.co.uk/monetarypolicy/Pages/framework/framework.asp
 https://www.bankofengland.co.uk/monetarypolicy/Pages/framework/framework.asp
 https://www.bankofengland.co.uk/monetarypolicy/Pages/framework/framework.asp
 https://www.bankofengland.co.uk/monetarypolicy/Pages/framework/framework.asp
 https://www.bankofengland.co.uk/monetarypolicy/Pages/framework/framework.asp
 https://www.bankofengland.co.uk/monetarypolicy/Pages/framework/framework.asp
 https://www.bankofengland.co.uk/monetarypolicy/Pages/framework/framework.asp
 https://www.bankofengland.co.uk/monetarypolicy/pages/framework/framework/framework/framework/framework/framework/framework/framework/framework/framework/frame

A19.114 Channel Islands Competition and Regulatory Authorities (www.cicra.gg)

 Licensing Framework, http://www.cicra.gg/telecoms/licensee_framework.aspx#Licensees

A19.115 HMRC (www.hmrc.gov.uk)

Corporation Tax rates, http://www.hmrc.gov.uk/rates/corp.htm

Other documents

Analysys Mason

- A19.116 Analysys Mason, *The connected consumer survey: voice and messaging*, June 2013.
- A19.117 Analysys Mason, *Wireless network traffic worldwide: forecasts and analysis* 2013–2018, October 2013.
- A19.118 Analysys Mason, Final report for Ofcom: Assessment of the benefits of a change of use of the 700 MHz band to mobile, 22 May 2014.

 http://stakeholders.ofcom.org.uk/binaries/consultations/700MHz/annexes/benefits_7
 00MHz.pdf

Bank of England

A19.119 Bank of England, *Inflation Report*, February 2014. http://www.bankofengland.co.uk/publications/Documents/inflationreport/2014/ir14fe b.pdf

BEREC

A19.120 ERG, Revised ERG working paper on the SMP concept for the new regulatory framework, ERG (03) 09rev3, September 2005.

http://berec.europa.eu/doc/publications/public_hearing_concept_smp/erg_03_09rev_3_smp_common_concept.pdf

- A19.121 ERG, ERG Common Position on Geographic Aspects of Market Analysis (definition and remedies), ERG (08) 20 final CP Geog Aspects 081016, October 2008. http://www.irg.eu/streaming/ERG%20(08)%2020%20final%20CP%20Geog%20Aspects%20081016.pdf?contentId=545387&field=ATTACHED_FILE
- A19.122 BEREC, BoR (10) 64, BEREC report on the impact of bundled offers in retail and wholesale market definition, December 2010.

 http://berec.europa.eu/eng/document_register/subject_matter/berec/reports/?doc=2

 09
- A19.123 BEREC, Termination Rates Benchmark Snapshot (as of July 2013): Integrated Report on Mobile Termination Rates, and SMS Termination Rates, November 2013. <a href="http://berec.europa.eu/eng/document_register/subject_matter/berec/reports/3900-termination-rates-benchmark-snapshot-as-of-july-2013-integrated-report-on-mobile-termination-rates-and-sms-termination-rates

BT

A19.124 BT, Carrier Price List

https://www.btwholesale.com/pages/static/Library/Pricing_and_Contractual_Information/carrier_price_list/cpl_sectionb1telephony.htm

- Section B1 Telephony part no. 102 'Operator Services (BT to OLO)'
 https://www.btwholesale.com/shared/document/CPL/SectionB1_Telephony/B102
 <a href="https://www.btwholesale.com/shared/document/CPL/SectionB1_Telephony/B102
 <a href="https://wwww.btwholesale.com/shared/document/CPL/SectionB1_T
- Section B1 Telephony part no. 106 'Non Geographic Call Services' https://www.btwholesale.com/shared/document/CPL/SectionB1_Telephony/b1_0

 6.xls

Credit Suisse

A19.125 Credit Suisse, Credit Suisse Global Investment Returns Sourcebook 2014 (2014 Sourcebook).

Cullen International

A19.126 Cullen International, *Mobile termination rates - Moving towards pure LRIC?*, 27 February 2014.

http://www.cullen-international.com/product/documents/CTTEEU20140049

Ecorys

A19.127 Ecorys, Future electronic communications markets subject to ex-ante regulation, 18 September 2013

 $\underline{\text{http://ec.europa.eu/information_society/newsroom/cf/dae/document.cfm?doc_id=31}}\underline{48}$

H₃G

A19.128 Email from Mark Falcon (H3G) to Brian Potterill (Ofcom), 11 February 2014, 17.22.

HM Treasury

A19.129 HM Treasury, Forecasts for the UK Economy: a comparison of independent forecasts. May 2014.

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/3128 24/201405forecomp.pdf

ITU

A19.130 ITU (www.itu.int)

- ITU, Report ITU-R M.2134, Requirements related to technical performance for IMT-Advanced radio interface(s), 2008. http://www.itu.int/dms_pub/itu-r/opb/rep/R-REP-M.2134-2008-PDF-E.pdf
- A19.131 ITU, Recommendation ITU-R M.2012-1, Detailed specifications of the terrestrial radio interfaces of International Mobile Telecommunications-Advanced (IMT-Advanced), February 2014. https://www.itu.int/dms_pubrec/itu-r/rec/m/R-REC-M.2012-1-201402-I!!PDF-E.pdf

OFT

A19.132 Office of Fair Trading, *Market definition, Understanding competition law*, December 2004.

www.oft.gov.uk/shared oft/business leaflets/ca98 guidelines/oft403.pdf

ONS

- A19.133 ONS, Summary: UK Population Projected to Reach 70 Million by Mid-2027, released 26 October 2011. http://www.ons.gov.uk/ons/rel/npp/national-population-projections/2010-based-projections/sum-2010-based-national-population-projections.html
- A19.134 ONS, International Comparison of the Formula Effect between the CPI and RPI, 20 March 2012.

http://www.ons.gov.uk/ons/guide-method/user-guidance/prices/cpi-and-rpi/improving-the-timeliness-of-the-cpi-and-rpi-publication.pdf

- A19.135 ONS, National Statistician's consultation on options for improving the Retail Prices Index, 8 October 2012. http://www.ons.gov.uk/ons/about-ons/get-involved/consultations/archived-consultations/2012/national-statistician-s-consultation-on-options-for-improving-the-retail-prices-index/index.html
- A19.136 ONS, Introducing the new RPIJ measure of Consumer Price Inflation, 12 March 2013.

http://www.ons.gov.uk/ons/guide-method/user-guidance/prices/cpi-and-rpi/introducing-the-new-rpij-measure-of-consumer-price-inflation.pdf

A19.137 ONS, Consumer Price Inflation - December 2013, published 14 January 2014. http://www.ons.gov.uk/ons/rel/cpi/consumer-price-indices/december-2013/consumer-price-inflation-reference-tables.xls

OECD

A19.138 OECD, "Developments in Mobile Termination", OECD Digital Economy Papers, No. 193, OECD Publishing, February 2012. http://dx.doi.org/10.1787/5k9f97dxnd9r-en

Pure Pricing

A19.139 Pure Pricing, MVNO Pricing Update, December 2011.

A19.140 Pure Pricing, UK Mobile Pricing Database, December 2011.

A19.141 Pure Pricing, MVNO Pricing Update, December 2013.

A19.142 Pure Pricing, UK Mobile Pricing Database, December 2013.

UK Statistics Authority

A19.143 UK Statistics Authority, *Retail Prices Index*, statement, 14 March 2013. http://www.statisticsauthority.gov.uk/news/statement---retail-prices-index---14-march-2013.pdf

Virgin Media

A19.144 Virgin Media's response to Ofcom's Consultation on the Approach to setting LLU and WLR Charge Controls, 30 September 2013.

http://stakeholders.ofcom.org.uk/binaries/consultations/llu-wlr-cc-13/responses/Virgin_Media.pdf