

Annex 1

Summary of consultation responses

Introduction

- A1.1 In response to our Discussion Document, we received over 130 written responses from a range of stakeholders. These included private individuals, consumer interest organisations, companies and trade bodies.
- A1.2 We have summarised the main points raised by stakeholders below. All non-confidential consultation responses are available in full on our website. We have also considered a number of confidential responses, which we have not summarised below in order to respect the confidentiality of the submissions.
- A1.3 This summary groups consultation responses under the main document sections headings, as appropriate. Submissions not related directly to one of the sections are summarised under 'other submissions'. In reaching our initial conclusions we have taken into account all of the submissions that we received. We have indicated below those sections in the main document in which we address the topics covered by the submissions received, together with some further explanation in some cases. We also received submissions on a small number of topics which we have not addressed in the main document, and in those cases we provide a brief response below.

Securing wide availability of services

State of availability

Coverage of communications services in particular locations

- A1.4 Many respondents described the poor coverage of fixed and mobile services in specific UK regions, cities, towns and villages or on transport networks. Respondents, including COSLA, also highlighted the lack of availability of communications services in the Nations and rural areas.¹
- A1.5 In their responses to the Discussion Document, many stakeholders identified the good outcomes that follow from the availability of high speed services and voiced concern about rural availability.²
- A1.6 *Our strategy for improving availability is discussed in section 3.*

Approaches to securing availability

Role of BT and Openreach in securing availability

- A1.7 A number of stakeholders, including Vodafone, suggested that BT and Openreach had a poor record in investing in network infrastructure, with CityFibre suggesting that policies must be in place to ensure that Openreach is reinvesting excess profit

¹ [COSLA](#), p. 2.

² Multiple respondents; [CLA](#), p. 1.

into infrastructure.³ Some argued that structural separation would improve availability. However, others such as Prospect considered that structural separation would not necessarily improve availability.⁴

A1.8 *We note the role that BT and Openreach play in providing network infrastructure to underserved areas. Our approach to extending network service availability, including through public sector intervention, is detailed in section 3. We set out our strategy to promote private sector investment through competition and regulation in section 4. Our views on strengthening Openreach's independence are set out in section 6.*

Competition and availability

- A1.9 Many respondents, including BT and the BBC, argued that effective competition can deliver good outcomes in terms of availability and remains an important means of delivering widespread availability of services.⁵ However, some respondents, including Verizon and EE, noted that competition alone will not provide widespread availability and that public policy interventions or targeted regulation will be required.⁶ The Infrastructure Investors Group submitted that infrastructure competition has a positive effect on broadband penetration and that competition based on dark fibre does not incentivise BT to expand network coverage.⁷
- A1.10 The Phone Co-op, among others, proposed alternative models, such as co-owned or state-owned infrastructure, as ways of improving availability.⁸
- A1.11 *Ofcom considers that effective competition can deliver good outcomes in terms of availability on the whole, but that public policy interventions are required to deliver communications services to all consumers, as discussed in section 3.*
- A1.12 Others mentioned specific competition concerns, such as the impact that the proposed mergers of BT/EE and Three/O2 might have on coverage levels.⁹
- A1.13 *While competition delivers positive outcomes for citizens and consumers on the whole, certain areas will never be served on a competitive basis. We will therefore look to introduce and implement policy measures for extending availability in these locations. This is discussed in section 3.*

The 'last 5%' and public policy

- A1.14 Stakeholders, including Wansdyke and the Communications Consumer Panel and ACOD, raised the challenges of providing communications services to the 'last 5%' – the portion of citizens and consumers whose needs commercial roll out of fixed and mobile services will never address. Some highlighted the potential for

³ Vodafone, [main response](#), p. 8; CityFibre, [main response](#), p. 47.

⁴ [Prospect](#), p.1.

⁵ BT, [main response](#), p. 52; [BBC](#), p. 6.

⁶ [Verizon](#), p. 3; EE, [main response](#), p. 27.

⁷ [Infrastructure Investors Group](#), pp. 6-9.

⁸ Phone Co-op, [annex](#), p. 23.

⁹ [uSwitch](#), p. 8; [BCS](#), p.3; [David Roake](#), pp. 1-2.

disenfranchisement that comes from lack of services.¹⁰ Wealden District Council added that market failure in the communications sector hinders local growth.¹¹

- A1.15 A number of respondents, including Telefonica UK, discussed the role of Government intervention in securing availability.¹² Many, such as the Scottish Government, focussed on the potential for a USO for broadband, including identifying a range of appropriate speeds for a USO.¹³
- A1.16 *Implementation of a broadband USO is a priority for Ofcom and is discussed in section 3.*
- A1.17 Kent County Council drew Ofcom's attention to the BDUK process.¹⁴ Vodafone, WiSpire, and some individuals expressed concerns about the process and effectiveness of public funding, particularly regarding BDUK.¹⁵ Redburn questioned why BDUK is structured as a subsidy rather than a debt or equity participation.¹⁶
- A1.18 *Administration of the BDUK process is a matter for Government, though Ofcom will continue to offer technical input to the BDUK process as appropriate as part of its strategy for achieving widespread availability.*
- A1.19 A number of respondents, such as BT and Prospect, commented on Ofcom's approach and the role regulation can play in securing availability, for example by working with other regulatory bodies and understanding the risk of regulatory failure.¹⁷
- A1.20 *We are aware of the role that regulation can play in securing availability, particularly in promoting conditions for investment and intervening with public policy where appropriate. We actively engage with other regulators, both formally and informally, including through our involvement in the UK Regulators Network (UKRN).*

Pricing and availability

- A1.21 TalkTalk and others argued for changes to Ofcom's approach to pricing in order to extend availability. TalkTalk said that it may be appropriate in certain cases to allow higher retail prices in commercially unviable areas than elsewhere in the UK.¹⁸
- A1.22 *It is not presently Ofcom policy to regulate retail prices. Ofcom's approach to extending availability in commercially unviable areas, including the implementation of a USO for broadband, is discussed in section 3.*

Technological options

- A1.23 Some stakeholders, such as the Communications Consumer Panel and ACOD, argued for a technology-neutral approach to fixed and broadband coverage or said

¹⁰ [Wansdyke Ltd](#), p. 2; [Communications Consumer Panel and ACOD](#), pp. 5-6.

¹¹ [Wealden District Council](#), p. 1.

¹² [Telefonica UK](#), p. 5.

¹³ [Scottish Government](#), pp. 4-5.

¹⁴ [Kent County Council](#), p.1.

¹⁵ Vodafone, [main response](#), p. 32; [Wispire](#), p.3; [James Fraser](#), p. 2; [Philip Virgo](#), p.1.

¹⁶ [Redburn](#), p.7.

¹⁷ BT, [main response](#), p. 47; Prospect, [response to the DCR Terms of Reference](#), pp. 2-3.

¹⁸ TalkTalk, [main response](#), p. 65.

that multiple technologies will be required.¹⁹ However, other stakeholders supported the use of specific technologies to meet the UK's need for communications services, such as:

- fibre networks – communications networks that use fibre optic cable rather than copper lines to carry data;
- satellite – the use of satellite technology to send data to areas that cannot be reached, or that it is economically unfeasible to reach in other ways;
- Wi-Fi – use of high powered Wi-Fi transmitters to send data to areas that cannot otherwise be reached;
- DOCSIS Cable (Data Over Cable Service Interface Specification) – a standard for the high speed transmission of data over cable networks;
- FTTH (Fibre to the Home) – A form of fibre optic communication delivery in which the optical signal reaches the consumer's home without relying on a copper access line;
- GPON FTTH – the use of splitters in a fibre distribution network, enabling a single fibre to serve multiple homes or premises;
- FTTrN (Fibre to the Remote Node) – A form of fibre optic communication delivery in which the optical signal reaches a node mounted close to the premises, from which point a copper connection to the premises is made;
- Femtocells – Small base stations, typically installed in a premises to improve indoor mobile coverage;
- mobile repeaters – mobile technology used to amplify and retransmit mobile signals locally to improve coverage; and
- 5G – the next generation of mobile services that are expected to be able to use very high frequency spectrum to deliver extremely fast data speeds.

A1.24 Other stakeholders were critical of certain technological solutions. Wansdyke argued that 5G mobile will perpetuate a 'city-first' approach.²⁰ CityFibre noted inefficiencies associated with BT's investment in G.Fast technology.²¹ An individual noted that only residents living near cabinets have benefitted from the FTTC rollout.²²

A1.25 Respondents, including Argyll and Bute Council, emphasized the importance of infrastructure provision for delivering innovative services to consumers.²³ The Communications Consumer Panel and ACOD said that coverage of high capacity services supports innovation at the service layer.²⁴

¹⁹ [Communications Consumer Panel and ACOD](#), p. 6.

²⁰ [Wansdyke](#), p. 3.

²¹ [CityFibre](#), p. 7.

²² [Marchant, Ms I](#), p. 1.

²³ [Argyll and Bute Council](#), p. 1.

²⁴ [The Communications and Consumer Panel and ACOD](#), p. 4.

A1.26 *We are aware that a range of technologies might be employed to improve availability and are eager to support innovation in this respect. As such, we believe that both fixed and wireless technologies are suitable for addressing the shortfall in availability of communications services depending on local circumstances. Our view on technologies to deliver ultrafast broadband services are set out in sections 3 and 4.*

Mobile coverage, not-spots and market structure

A1.27 Stakeholders, including the UKB Group, argued that network roaming, sharing and/or switching would help to improve mobile coverage.²⁵ However, BT argued that the adverse impact on investment incentives outweighs the benefits of national roaming.²⁶

A1.28 *Ofcom is aware of the benefits that might come from national roaming, although we are conscious that mandated national roaming can reduce incentives to invest in new networks. Wherever possible, we favour network investment and competition to deliver benefits to consumers. We are supportive of approaches to reduce the cost of new network deployment, including network sharing and other innovative approaches to securing wider coverage.*

A1.29 The Ofcom Advisory Committee for Scotland and Team East Sussex identified the need for coverage on transport networks.²⁷

A1.30 *Our views on mobile coverage for transport networks are set out in section 3.*

A1.31 Northern Ireland's Department of Enterprise, Trade and Investment suggested that liberalisation of the use of small cell technologies, e.g. mobile repeaters could improve mobile coverage.²⁸

A1.32 *We discuss this issue in section 3 and section 8.*

A1.33 TalkTalk argued for dependable, high speed and ubiquitous mobile connectivity in the vast majority of places where consumers need it. A number of stakeholders, including the Ofcom Advisory Committee for Scotland, identified problems with the distribution of mobile services in the UK and the structure of the mobile market.²⁹ However, BT argued that there is no need for Ofcom to consider further interventions to drive mobile coverage.³⁰

A1.34 Stakeholders, including the Welsh and Scottish Governments, drew our attention to the role of coverage obligations in securing availability.³¹ The FSB urged Ofcom to ensure it holds the MNOs to account on coverage obligations.³² The Ofcom Advisory Committee for Scotland said that the deal between government and the MNOs has 'effectively abandoned the last 5%' by prioritising coverage for partial

²⁵ [UKB Group](#), p.20.

²⁶ BT, [main response](#), p. 50.

²⁷ [Ofcom Advisory Committee for Scotland](#), p. 6; [Team East Sussex](#), p. 1.

²⁸ [Department for Enterprise Trade and Investment](#), p. 2.

²⁹ TalkTalk, [response to DCR Terms of Reference](#), p. 3; [Ofcom Advisory Committee for Scotland](#), p. 6.

³⁰ BT, [main response](#), p. 50.

³¹ [Welsh Government](#), p.2; [Scottish Government](#), p.5.

³² [FSB](#), p.9.

not-spots. It also argued that the signal level for the coverage in this agreement is much too low.³³

- A1.35 *We recognise that mobile coverage is not spread evenly across the UK, with some areas experiencing only partial coverage or no coverage at all. We have set out our strategy for addressing these issues and increasing mobile coverage, including potentially introducing coverage obligations on 700 MHz spectrum, in section 3.*
- A1.36 Wansdyke and Westminster City Council brought both city-not spots and EOLs to our attention in their responses.³⁴
- A1.37 *Exchange only lines and city not spots are discussed in section 3.*
- A1.38 Stakeholders such as the FCS argued for penalties for suppliers who do not invest or who fail to supply services.³⁵
- A1.39 *We note that some spectrum licences contain obligations to provide coverage to a certain percentage of the UK and that the potential exists for Ofcom to take enforcement action against operators who fail to meet these targets for coverage.*

Infrastructure

Incentivising infrastructure investment

- A1.40 Telzed suggested that to encourage investment in rural areas we should guarantee some form of exclusivity. However, it noted that access regulation would be appropriate if the investment has government assistance.³⁶ Redburn argued that the DCR should consider an approach of creating concession areas, whereby fibre builders in a defined area are given a temporary monopoly in return for a commitment to build.³⁷
- A1.41 *We want communications services to be available as widely as possible across the UK and it is neither possible nor desirable to grant monopolies in telecoms services given the EU Framework and the benefits of competitive markets. In this regard we welcome the UK Government's move to make decent, affordable broadband a universal right for every home and small business in the UK. We will work with Government on the initial implementation, and to advise how this right should change over time.*
- A1.42 Telzed requested greater clarity as to how direction given in the EU Infrastructure Directive will be applied in the UK.³⁸ Virgin Media was concerned that the EU Infrastructure Directive (which requires infrastructure owners to open their networks to third parties) could deter investment.³⁹
- A1.43 *The UK Government has issued a consultation on the transposition of the EU Infrastructure Directive (which we refer to as the Civil Infrastructure Directive) in the*

³³ [Ofcom Advisory Committee for Scotland](#), p. 12.

³⁴ [Wansdyke](#), p. 5; [Westminster City Council](#), p. 4.

³⁵ [FCS](#), p. 4.

³⁶ [Telzed Ltd](#), p. 38.

³⁷ Redburn, [main response](#), pp. 3 and 7.

³⁸ [Telzed Ltd](#), p. 30.

³⁹ [Virgin Media](#), p. 21.

UK. The Directive will give a right of access to civil infrastructure to deploy high speed broadband networks on fair and reasonable terms, including fair compensation for infrastructure owners for access to their networks.

A1.44 Stakeholders such as Three and Telefonica UK voiced concern about the pace of the Government review of the Electronic Communications Code. They referred to the impact that this is having on their ability to improve mobile coverage.⁴⁰

A1.45 *We discuss the UK Government's review of the ECC in section 3.*

Local infrastructure investment

A1.46 Telcoconsulting argued for the creation of regional access companies, or affiliates, that are given full commercial freedom to provide capacity and services required and are able to compete at the local level.⁴¹ The Foundation for Information Society Policy and others argued for recognition of the role that local investment and communities can play in service coverage.⁴²

A1.47 *Ofcom recognises the role that local investment and communities can play alongside private sector communication provider investment in extending coverage through initiatives such as Community Broadband Scotland.*

The relationship between switching and availability

A1.48 SSE argued that universal and harmonised switching might incentivise operators to provide basic access to networks in return for fee income and thereby extend availability in uncommercial areas.⁴³

A1.49 *We consider that the ability to switch quickly and easily is important to supporting competition of all forms.*

Take up

A1.50 Stakeholders, including the BBC, argued that the benefits of greater connectivity will only be achieved if take up matches availability. The BBC also said that demand stimulation by services such as BBC iPlayer improves the rollout investment case and drives greater availability.⁴⁴

A1.51 *We agree that the benefits of greater connectivity depend on consumer up take of communications services. The UK has so far demonstrated good take-up of superfast broadband services, although slowing adoption of broadband overall. From our media literacy research programme we know that take-up is driven by a range of factors, and that it is important that digital inclusion initiatives take a tailored approach to an individual's circumstances. It is indeed beneficial if there are a variety of compelling content and service propositions to stimulate appetite. We*

⁴⁰ [Three](#) p. 2; [Telefonica UK](#) p. 5.

⁴¹ [Telcoconsulting](#), p. 1.

⁴² [Foundation for Information Society Policy](#), p. 3.

⁴³ [SSE](#), p. 13.

⁴⁴ [BBC](#), p. 6.

*monitor digital engagement through our annual Adults' Media Use and Attitudes Reports.*⁴⁵

Utilities

- A1.52 The JRC submitted on the use of communications services for the utilities sector, including the availability of spectrum for utilities operations systems. It argued that the water and energy utilities should be supported by targeted intervention / financial assistance to extend network availability.⁴⁶
- A1.53 *Ofcom takes note of the fact that particular industries have high demands when it comes to their communications services. We note that targeted intervention in other sectors is a matter for other regulatory bodies or Government.*

Consumer experience and defining a 'good' service

- A1.54 Some respondents asked Ofcom to consider the consumer experience, including the effects of a lack of availability on flexible working and to consider the actual benefits consumers derive from improved communications services. However, others argued that, beyond a relatively low level, increases in broadband speed do not significantly improve user experience.⁴⁷
- A1.55 One group of stakeholders, including the IT Support Line, defined a 'good' service in terms of speed (for broadband) or service type (for mobile).⁴⁸ Others suggested that a good level of service could be defined in other ways. For example, Ashburnham and Penhurst Parish Council suggested an absence of not-spots.⁴⁹
- A1.56 *Ofcom takes the view that availability of communications services plays an increasingly significant role in our lives. Ofcom has argued that connections faster than 10 Mbit/s deliver a better quality of experience to the consumer.*⁵⁰ *We note the diverse ways in which a good service can be defined and have taken account of these views in devising our strategy for availability, set out in section 3.*

Coverage maps

- A1.57 Three responded on the subject of Ofcom's coverage maps. It argued that Ofcom's coverage maps are a sub-optimal approach to regulation and that Ofcom did not engage sufficiently in devising them.⁵¹
- A1.58 *We consider it important that consumers have access to comparable information when choosing a service provider. The Ofcom coverage maps present the predicted coverage data supplied by each mobile network in a comparable way for the first time and are an important part of our work to empower consumers.*

⁴⁵ See Ofcom, [Adults' media use and attitudes: Report 2015](#).

⁴⁶ [JRC](#), pp. 1-2.

⁴⁷ Nine Group, [main response](#), p. 3; [Ofcom Advisory Committee for Northern Ireland](#), p. 1; [Sir Bryan Carsberg](#), p. 1.

⁴⁸ [IT Support Line](#), p. 2.

⁴⁹ [Ashburnham and Penhurst Parish Council](#), p. 1.

⁵⁰ Ofcom, [Connected Nations Report 2015](#), p. 31.

⁵¹ [Three](#), p. 57.

A1.59 *During our engagement with the mobile operators in advance of publishing the maps, it was apparent that there were no industry agreed standards for presenting coverage information. As a result, Ofcom conducted its own testing to assess the overall accuracy of the MNOs' signal predictions and establish the signal level required to reliably make calls on a typical smart phone. We will continue to conduct our own research and engage with the MNOs to refine and improve the maps.*

Information provision

A1.60 Stakeholders, including the UKB Group, drew Ofcom's attention to the need for better information provision to potential investors and/or consumers, with the NFU specifically mentioning the problems of measuring availability by postcode.⁵²

A1.61 *Information provision is part of Ofcom's strategy for fixed and mobile communications. We address it through both our coverage maps and programmatic work like the Connected Nations Report. This is discussed in section 7. The provision of information on BT's duct and pole infrastructure is a significant part of our strategy for fixed broadband. This is discussed in section 4.*

Promoting investment and competition

End-to-end competition

A1.62 A number of respondents argued in favour of promoting end-to-end competition. Virgin Media urged Ofcom to promote end-to-end competition as a priority.⁵³ Telefonica UK considered that the optimal position is to have end-to-end competition based on multiple competing infrastructures, as is the case in some urban/sub-urban areas of the UK.⁵⁴

A1.63 CityFibre and the Infrastructure Investors Group submitted that control of network design, topology and technology leads to greater dynamic benefits compared to passive access.⁵⁵

A1.64 Vodafone argued that the absence of network competition in the UK has a number of disadvantages, including that BT has no incentive to upgrade its network to FTTH or extend the coverage of superfast networks. Furthermore, competition and innovation in downstream markets is largely determined by Openreach's network capabilities and network investments. Finally, all downstream competitors are dependent on Openreach's quality of service.⁵⁶

A1.65 Other respondents noted the practical limits of end-to-end competition. Vodafone, Colt, Sky and TalkTalk recognised the benefits of 'deeper' models of competition, but considered that full end-to-end competition was not viable in all areas due to the high costs of civil works.⁵⁷ KCOM, stated that end-to-end competition has the

⁵² [UKB Group](#), p. 23; [National Farmers Union](#), p. 1.

⁵³ [Virgin Media](#), p. 27.

⁵⁴ [Telefonica UK](#) p. 10.

⁵⁵ CityFibre, [main response](#), p. 38; [Infrastructure Investors Group](#), p. 6.

⁵⁶ Vodafone, [main response](#), pp. 39-40.

⁵⁷ [Colt](#), p. 10; [Sky](#), p. 24; TalkTalk, [main response](#), p. 39; Vodafone, [main response](#), pp. 48-49.

potential to be effective in many locations in the UK, but is not a realistic option everywhere.⁵⁸

- A1.66 Sky argued that, in principle, competition should be promoted as far upstream as effective and sustainable. However, it recognised that the appropriate model of competition depends on the circumstances and urged Ofcom to be flexible and pragmatic. It considered that models of competition are not mutually exclusive and in many areas of the country more than one model of competition can co-exist.⁵⁹
- A1.67 UKB Group noted that access-based regulation will continue to be needed alongside infrastructure competition for the foreseeable future.⁶⁰
- A1.68 BT argued that Ofcom should encourage investment by alternative operators where viable. However, it added that end-to-end investment would only be viable in areas of high demand and for higher value services.⁶¹
- A1.69 SSE argued against end-to-end competition, because this would reduce retail choice. It believed this model of competition would make switching between providers more difficult.⁶²
- A1.70 An anonymous respondent argued that the UK will be best served by a point to point optical fibre-based independent passive network open to all operators under equivalent terms and that Ofcom should signal this as a regulatory objective.⁶³
- A1.71 INCA described the role that non-incumbents can play in delivering the UK's future broadband needs.⁶⁴
- A1.72 UKB Group argued that infrastructure competition is the best way to encourage innovation and investment, but that it does not make commercial sense to duplicate infrastructure in all areas.⁶⁵
- A1.73 CityFibre and the Infrastructure Investors Group stressed that end-to-end competition does not result in duplication of assets because the networks are of different design, topology and technology (e.g. using fibre rather than copper).⁶⁶
- A1.74 Telefónica UK recognised that there is an economic limit where the returns for more than one infrastructure owner make deployment unviable and access regulation is required.⁶⁷
- A1.75 *We discuss end-to-end competition in section 4.*

⁵⁸ [KCOM](#), p. 2 .

⁵⁹ [Sky](#), pp. 23-24.

⁶⁰ [UKB Group](#), p. 2.

⁶¹ [BT](#), [main response](#), p. 65.

⁶² [SSE](#), p. 8.

⁶³ [Name Withheld 6](#), p. 1.

⁶⁴ [INCA](#), p. 4.

⁶⁵ [UKB Group](#), p. 10.

⁶⁶ [CityFibre](#), [main response](#), p. 38; [Infrastructure Investors Group](#), pp. 17.

⁶⁷ [Telefonica UK](#) p. 10.

Hull

- A1.76 KCOM argued that the current regulatory framework is already encouraging investment and therefore requires limited changes. It stressed that competition from other fixed and wireless providers (e.g. 4G mobile) meant there was a prospect of effective end-to-end competition in Hull, and regulation should reflect this.⁶⁸
- A1.77 *We conduct regular reviews of telecoms markets which gather evidence in order to assess competitive conditions. We will consider whether there is a prospect of effective end-to-end competition in Hull as part of this process.*

Access regulation

- A1.78 Colt, Sky, and Vodafone considered that we should favour competition at a deeper level in the value chain.
- A1.79 Colt considered that the primary focus of regulation should be ‘deep passive access’, based on access to existing physical infrastructure. It argued that this provides the benefits of end-to-end competition at a fraction of the cost and could extend availability. However, it recognised that this may not be appropriate for all situations, and an overlay of active regulation will continue to be required indefinitely. Colt considered that once passive access is established we could withdraw active remedies on a geographic basis.⁶⁹
- A1.80 Sky considered that passive access can expose the downstream value chain to competition. This is likely to bring substantial benefits to end users and an effective PIA product could play a role in fostering effective and sustainable competition in fibre.⁷⁰
- A1.81 Vodafone suggested Ofcom should consider ‘improving the opportunities for alternative operator infrastructure investment’, setting out its belief that ‘multi-operator investment should start with a far more effective regulatory regime for regulated access to Openreach’s ducts and poles’.⁷¹ Vodafone argued that to encourage investment by alternative operators we should make PIA more effective, and that this might unlock co-investment opportunities.⁷² It noted that while access regulation may guard against an abuse of dominance, it does not encourage investment and is often designed to address a lack of ability to compete in building infrastructure.⁷³ It considered that our current approach to superfast broadband was to constrain market power (via VULA) rather than promote alternative investment e.g. via passive remedies.⁷⁴
- A1.82 In contrast, CityFibre and the Infrastructure Investment Group considered that competition based on passive access remedies resulted in lower benefits than full

⁶⁸ [KCOM](#), pp. 8-9.

⁶⁹ [Colt](#), pp. 5 and 10.

⁷⁰ [Sky](#), p. 25.

⁷¹ Vodafone, [main response](#), pp. 35.

⁷² Vodafone, [main response](#), p. 35.

⁷³ Vodafone, [main response](#), pp. 25.

⁷⁴ Vodafone, [main response](#), pp. 37-38.

end-to-end competition because the access seeker is still subject to the network topology and quality of service performance of the access provider.⁷⁵

- A1.83 BT and Virgin Media argued against the introduction of passive remedies. BT and Virgin Media considered that the introduction of dark fibre in the BCMR would undermine incentives for communications providers to invest in end-to-end infrastructure.⁷⁶
- A1.84 BT stated that imposing two access products – Dark Fibre and Ethernet Access Direct – will result in margin disputes and regulatory arbitrage. It also argued that the strategic nature of dark fibre meant we should take any decision regarding dark fibre as part of this review.⁷⁷ BT noted that passive access has been used to a greater extent in other countries, but the circumstances are different and the outcomes in other countries may not be as good as the UK.⁷⁸
- A1.85 Virgin Media argued that we should have a strategic preference for active over passive remedies (instead of deciding on a case-by-case basis).⁷⁹
- A1.86 SSE warned that the removal of active remedies would undermine the ‘reseller’ business model. It argued that consumers benefit from having a range of service providers, some of which could provide other benefits such as supermarket points or discounts on other types of products. It argued that active products can coexist with other types of access remedy.⁸⁰
- A1.87 *We discuss access regulation in section 4.*

PIA processes

- A1.88 Vodafone, Colt, and UKB Group argued we should put particular focus on duct and pole access (DPA). They argued that current service restrictions on PIA should be removed which would enable communication providers to achieve economies of scale and scope (e.g. by using DPA for residential and business services).⁸¹
- A1.89 Vodafone submitted that there are a number of process and operational issues with the current PIA product rendering it not viable. It recommended the following actions to promote competition based on passive access:⁸²
- Improve the existing PIA products and industrialise the processes to deliver them. This would include removing the usage restrictions, revisiting pricing and developing on-line resources;
 - Determine what happens when it is not feasible for Openreach to provide duct access for technical or other reasons; and

⁷⁵ CityFibre, [main response](#), p. 38; [Infrastructure Investment Group](#), p. 19.

⁷⁶ BT, [main response](#), pp. 73-74; [Virgin Media](#), p. 21.

⁷⁷ BT, [main response](#), pp. 64-65.

⁷⁸ BT, [main response](#), p. 66.

⁷⁹ [Virgin Media](#), pp. 27, 43.

⁸⁰ [SSE](#), p. 16.

⁸¹ Vodafone, [main response](#), p. 49 ; [Colt](#), p. 5; [UKB Group](#), p. 15.

⁸² Vodafone, [main response](#), p. 49.

- Ensure EoI for BT's downstream businesses by requiring the rest of Openreach to obtain access to the passive assets using the same processes and products as would be developed to support BT's rivals.

A1.90 Wansdyke submitted that PIA rules and processes should be reviewed so that communications providers can make use of BT ducts and poles.⁸³ In its response to the DCR Terms of Reference, Citi Research also noted the ineffectiveness of PIA and argued that the UK should move to an online system of infrastructure mapping and a traffic light system for duct availability.⁸⁴

A1.91 BT argued that there was no case for an overhaul of its passive products, or for them to be made cheaper.⁸⁵ BT stressed that undertaking activities to make the PIA product easier to use (e.g. a duct paths and locations database) would be disproportionate for a product with no proven industry demand. It noted that communications providers can already obtain duct and pole locations on request through existing processes, and once obtained the communications provider can carry out a survey to ascertain whether the route is useable.⁸⁶

A1.92 *We discuss PIA and duct and pole access more generally in section 4.*

Dark fibre

A1.93 Telefonica UK considered that effective duct access has not been possible in the UK due to the poor quality of ducts and poor record keeping. It submitted that where duct access is not available, dark fibre is required. It argued that dark fibre should be made available on a duct route basis so that mobile operators can connect small cells in close proximity, rather than having to purchase routes back to the BT exchange.⁸⁷

A1.94 FCS considered that we should promote competition at the infrastructure level through passive access, including price controlled access to existing dark fibre.⁸⁸ UKB Group argued that cost-based dark fibre should be available where there are no alternatives to BT's backhaul network.⁸⁹

A1.95 The Infrastructure Investment Group considered that communications providers already offer dark fibre products on a commercial basis and questioned the need to mandate regulated passive access. It considered that if Ofcom does mandate passive remedies then it is critical that the price level does not deter own network investment. It recognised the need for active remedies, but considered that over time competition at the wholesale layer may make it possible for Ofcom to retire specific regulations and replace them with non-discrimination provisions and possibly an obligation to offer national wholesale terms.⁹⁰

A1.96 BT's submissions on dark fibre are set out above, in relation to access regulation and PIA processes.

⁸³ [Wansdyke Ltd](#), p. 2.

⁸⁴ Citi Research, [response to the Terms of Reference](#), p. 9.

⁸⁵ BT, [main response](#), p. 83.

⁸⁶ BT, [main response](#), p. 72.

⁸⁷ [Telefonica UK](#), p. 10.

⁸⁸ [FCS](#), p.7.

⁸⁹ [UKB Group](#), p. 15.

⁹⁰ [Infrastructure Investment Group](#), pp. 18-21.

A1.97 *We discuss dark fibre in section 4, and will conclude on this matter in the April Business Connectivity Market Review statement.*

Giving investors a ‘Fair Bet’

A1.98 Most stakeholders agreed that to ensure a stable, investment-friendly regulatory environment, Ofcom should continue to allow investors a “fair bet”, whereby the investor would be allowed to enjoy returns higher than the cost of capital when demand turns out to be higher than expected (or costs are lower than forecast). This balances out the possibility that the firm will earn returns below the cost of capital if demand turns out to be low (or efficiencies are not realised).

A1.99 There was also broad consensus that investors need clarity and consistency of regulatory approach over the long-term; and that any future triggers to move to cost-based regulation needed to be well understood and communicated in advance in order to enable well-informed investment decisions.

A1.100 *We discuss our approach to the fair bet and risky sunk investments by providers with market power in section 4.*

Whether and when to move away from pricing flexibility

A1.101 Our current approach is to provide BT with pricing flexibility by not setting regulated prices for VULA, but at the same time providing suitable protection for the margins of BT’s retail competitors.

A1.102 Some stakeholders argued that BT should continue to be given pricing flexibility, considering end-to-end competition was sufficient to stimulate investment and to deliver competitive prices for consumers. Virgin Media considered that the current approach of greater wholesale pricing freedom in relation to superfast broadband has encouraged investment by BT, Virgin Media and others.⁹¹ It considered that access-based competition and consumers remain protected in the presence of pricing flexibility given the availability of active access remedies (VULA) and the margin squeeze test.⁹²

A1.103 Virgin Media argued that there should be “no presumption that at some point it is right to regulate prices” as doing so would undermine incentives for future investment. Rather than “seek to ensure that there is a temporally ‘fair’ distribution of value between network builders and access seekers”, it argued that Ofcom should work to ensure that the conditions exist to promote investment in end-to-end infrastructure.⁹³

A1.104 CityFibre suggested that we should go further than this and set regulated wholesale prices above BT’s costs, so as to take into account BTs scale advantages and other factors to make it attractive for end-to-end competitors to BT to invest in networks with less scale and different network topologies to BT.⁹⁴

A1.105 BT noted that setting a ‘tough charge control’ on copper access products in 2005 has meant that no alternative copper infrastructure has been built since, while

⁹¹ [Virgin Media](#), pp. 20 and 27.

⁹² [Virgin Media](#), p. 45

⁹³ [Virgin Media](#), p. 45

⁹⁴ [CityFibre](#), p. 41-42

greater pricing freedom in relation to superfast broadband has led to investment in fibre. To promote investment, it argued that we should not impose unduly interventionist remedies or “draconian” charge controls.⁹⁵

- A1.106 BT also considered that it was still too early to move to a charge control during the next market review, considering that its NGA investments had not paid back yet.⁹⁶ Crucially, BT considered that charge controls should not be imposed until (i) pay-back expectations for the original investment have been met; (ii) on-going investments would not be undermined; (iii) where there is evidence of consumer and competitive harm as a result of pricing freedom; (iv) there is no possibility of competing network investment in the same geographic area; (v) any intervention is consistent with Ofcom’s statutory duties in support of investment.⁹⁷ More generally, BT noted that charge controls that are introduced too early would threaten cost-recovery for investments in risky new assets.⁹⁸ In turn, this would put the regulatory contract in question and future investments at risk.
- A1.107 TalkTalk argued that we are now “well past the point” at which wholesale charges to FTTC should be regulated. It considered that, according to a presentation by BT, BT will reach payback on its FTTC investment during 2017. It also argued that it was highly unlikely that a wholesale price cap would discourage future efficient investment by BT, and that BT has already been allowed a “huge upside” from its investment. It considered that BT could not have expected before it made the investment that it would benefit from more than eight years of pricing freedom.⁹⁹ TalkTalk also noted that VULA margin regulation was not, in practice, sufficient to prevent consumer harm or competitive distortions.¹⁰⁰
- A1.108 TalkTalk’s view was that “the default position should be that all material wholesale products, where BT has SMP, should be charge controlled at FAC (fully allocated cost), unless there are strong reasons otherwise”¹⁰¹. It cited a list of such potential reasons, including that the policy objective be clearly articulated, and that an assessment should be made how far above FAC prices needed to be set in order to achieve the stated objective. TalkTalk also added that where over-recovery on a product is allowed for policy reasons (i.e. prices above FAC to encourage entry), then this over-recovery should be offset by prices below FAC, but above LRIC, elsewhere.¹⁰²
- A1.109 With reference to the Frontier Economics study commissioned by Vodafone¹⁰³ and submitted as part of Vodafone’s DCR response, TalkTalk, Sky and Vodafone consider Ofcom’s current approach to regulating BT more generally has allowed BT to systematically over-recover costs.¹⁰⁴ Vodafone additionally considered that this

⁹⁵ BT, [main response](#), p. 65.

⁹⁶ BT, [main response](#), p. 83.

⁹⁷ BT, [main response](#), p.84

⁹⁸ BT, [main response](#), p. 83.

⁹⁹ TalkTalk, [main response](#), pp. 49.

¹⁰⁰ TalkTalk, [main response](#), p. 48.

¹⁰¹ TalkTalk, [main response](#), p. 74.

¹⁰² TalkTalk, [main response](#), p. 73.

¹⁰³ Vodafone, [Annex 2](#).

¹⁰⁴ Vodafone, [main response](#), pp. 28-30; TalkTalk, [main response](#), pp. 69-72; [Sky](#), pp. 27-28.

approach favoured BTs incentives to invest over those of former LLU investors who today have an appetite for investing in fibre.¹⁰⁵

A1.110 *We discuss pricing flexibility in section 4 and our response to the points made with regard to BT's returns in regulated markets below. Our approach to wholesale superfast broadband regulation will be considered as part of our next Wholesale Local Access Market Review (WLA).*

Pricing flexibility for future investments

A1.111 BT stated that Ofcom should provide a clear long-term commitment to the principle that it would not seek to regulate prices of services based on any new waves of investment until at least payback was achieved and only where there were clear competition concerns with the terms of supply of those services at that time.¹⁰⁶ It noted that its announced plans for the roll-out of ultrafast broadband amount to “another incremental risk investment in the network at the Openreach level ... which will not be possible if price controls are put in place”.¹⁰⁷

A1.112 It further noted that its announced plans for the roll-out of ultrafast broadband will not be possible if price controls for superfast broadband are put in place in advance of expected payback. It says this is because of the precedent that would be set by what it would consider ‘early’ intervention on superfast broadband, reducing investor trust in how we would honour the fair bet.¹⁰⁸

A1.113 Sky and TalkTalk argued that for future investments it will be key to correctly characterise the risk and sunkness of a particular investment, as some investments are not materially risky.¹⁰⁹

A1.114 TalkTalk considered that for new technologies such as G.Fast or FTTH, wholesale price caps must be imposed no later than three to five years after launch and in some cases should apply from launch. They noted margin regulation also has a role to play, particularly during any period in which wholesale price caps do not apply and that it should apply immediately from product launch. Furthermore, TalkTalk noted that margin regulation should be revised so that it is more effective than it is today in promoting downstream competition.¹¹⁰

A1.115 While not commenting on the precise conditions when pricing flexibility was appropriate, Vodafone noted that “imposing stringent price regulation on an access product in order to ensure that communications providers and consumers are paying a price approximately at cost fosters retail competition but does not address investment.”¹¹¹ Vodafone argued that to achieve investment in FTTH access to passive infrastructure and structural separation of BT was necessary.¹¹²

A1.116 To incentivise investment in FTTH, Vodafone argued Ofcom could introduce a “wedge” between the copper price paid by BT’s rivals and the receipts Openreach

¹⁰⁵ Vodafone, [main response](#), p. 31.

¹⁰⁶ BT, [main response](#), p. 80.

¹⁰⁷ BT, [main response](#), p. 83.

¹⁰⁸ BT, [main response](#), p. 83.

¹⁰⁹ Sky, p. 26; TalkTalk, [main response](#), pp. 50.

¹¹⁰ TalkTalk, [main response](#), p. 49.

¹¹¹ Vodafone, [main response](#), p. 25.

¹¹² Vodafone, [main response](#), pp. 33-34.

would actually obtain, ensuring that the difference was diverted to investment in fibre. It argued this would weaken BT's incentives to replace copper with more copper, without affecting retail or wholesale prices. However, it noted it would only support this approach if combined with the structural separation of BT because under the status quo such an approach would "exacerbate the existing problem of Openreach over-recovery on SMP wholesale products cross-subsidising BT entry into adjacent markets".¹¹³

A1.117 Colt questioned whether investments in civil infrastructure were risky at all noting they were "essentially utility assets, attracting low and stable returns, and subject to little risk". Colt noted that a charge control per se did not necessarily undermine incentives to invest, explaining that it might be adjusted, through choice of cost standard or a risk premium, respectively, to balance protecting downstream competition and consumers with incentives to invest.¹¹⁴

A1.118 *We discuss pricing flexibility in section 4. Our approach to regulating any future investments by BT will be considered will be determined as part of our regular market review process.*

Delivering a step change in quality of service

A1.119 In the Discussion Document we set out our hypotheses for what might be driving a number of poor outcomes for consumers in terms of the quality of service they receive from communications providers.

A1.120 We asked stakeholders to submit evidence of service quality issues and their causes. We also asked stakeholders what further options Ofcom should consider in order to address service quality problems. Their responses are summarised below.

Openreach's quality of service

Openreach's overall performance and incentives

A1.121 BT considered that, while demand for good service quality in telecoms is greater than ever, Openreach has delivered better service quality in response.¹¹⁵ It also stated that the market was delivering a satisfactory level of service quality to business customers.¹¹⁶ However a large number of stakeholders reported specific areas where demand for quality is not being met, as set out below.

A1.122 Stakeholders differed on the extent to which there is demand for better service quality among Openreach's wholesale customers. BT stated that retail communications providers generally choose not to differentiate on service quality by purchasing different SLAs.¹¹⁷ By contrast, Sky argued that LLU operators differentiate in terms of the service quality they offer.¹¹⁸ The CWU argued that consumers are willing to pay for more today for better quality.¹¹⁹

¹¹³ Vodafone, [main response](#), p. 51.

¹¹⁴ [Colt](#), p. 12.

¹¹⁵ BT, [main response](#), pp.125-128.

¹¹⁶ BT, [main response](#), pp. 139 and 140-141.

¹¹⁷ BT, [main response](#), pp. 133-134.

¹¹⁸ Sky, [Terms of Reference response](#), p. 4.

¹¹⁹ CWU, pp. 14-15.

A1.123 Sky, TalkTalk and others considered that Openreach's performance is unacceptably low in a number of areas.¹²⁰ Vodafone argued that Openreach's incentives to improve service quality are poor, given weak competition at the wholesale level.¹²¹ BT stated that Openreach's incentives are to provide good service quality to its wholesale customers and that it had invested in hiring 3000 engineers in the previous 18 months. It noted its commitments in its 2015 Charter document to improve service quality.¹²² The Federation of Small Businesses (FSB) reported that respondents to its 2014 survey rated Openreach's service quality to be poor.¹²³

A1.124 *We consider Openreach's performance and incentives in relation to service quality in section 5.*

Openreach's performance against minimum standards for repair and installation

A1.125 BT and the CWU considered that Openreach has gradually improved its performance in relation to WLR and repair MPF.¹²⁴ However, Sky considered it unacceptable that, it reported, approximately 90% of its installation orders requiring an engineer took 10 calendar days or more to complete. It also reported a high number of missed appointments and incomplete orders for installations.¹²⁵ The Federation of Small Businesses was particularly concerned about 'long tails' of incomplete repair orders.¹²⁶

A1.126 The FCS raised concerns about the way in which Openreach makes use of its engineers.¹²⁷ The Welsh Government reported regular correspondence with residential consumers and businesses on missed appointments and repeat contacts needed to resolve issues. However, it also stated that retail communications providers may sometimes blame Openreach unduly for delays.¹²⁸

A1.127 *We set out our views on Openreach's performance against minimum standards, and the potential for additional standards and targets in section 5.*

Service quality in relation to leased lines

A1.128 BT argued that Openreach had improved service quality in relation to Ethernet installations and the long tail of incomplete orders.¹²⁹ Powered by Vision considered that a lack of fixed timeframes made for slow delivery times for leased lines.¹³⁰ KCOM argued that the 'deemed consent' regime contributes to poor performance.¹³¹

¹²⁰ [Sky](#), p. 10-11; TalkTalk, [main response](#), p. 4.

¹²¹ Vodafone, [main response](#), p. 40.

¹²² BT, [main response](#), pp. 131.

¹²³ [Federation of Small Businesses](#), p. 3.

¹²⁴ BT, [main response](#), p. 127; [Communications Workers Union](#), p. 10.

¹²⁵ [Sky](#), p. 11.

¹²⁶ [Federation of Small Businesses](#), p. 18.

¹²⁷ [FCS](#), p. 16.

¹²⁸ [Welsh Government](#), p. 4.

¹²⁹ BT, [main response](#), pp. 132-133.

¹³⁰ [Powered By Vision](#), p. 6.

¹³¹ [KCOM](#), p. 12. Deemed Consent is a mechanism that allows BT to deem, under certain circumstances, that a communications provider has consented to an extension of the delivery timeframes for its Ethernet services beyond certain deadlines.

A1.129 *The 2016 Business Connectivity Market Review consultation set out proposals for quality of service in relation to leased lines, including new minimum standards. In November 2015 Ofcom announced an own-initiative investigation into the use by BT of the deemed consent regime.*¹³²

Investment in the copper access network

A1.130 Sky and TalkTalk argued that Openreach's historic investment in preventative maintenance has been unacceptably low, leading to more faults.¹³³ BT stated that faults in the access network have fallen by 16% since the creation of Openreach.¹³⁴ The Home Builders Federation, National Farmers Union, Nine Group and Union Street Technologies considered that Openreach had underinvested in the network.¹³⁵

A1.131 *We have examined BT's spending on preventative maintenance and new build installations and we note that [3<]. We consider the issue of fault rates on the copper network and how to strengthen Openreach's incentives to make long term investments in service quality in section 5.*

Service level agreements (SLAs) and service level guarantees (SLGs)

A1.132 Sky argued that negotiations facilitated by OTA2 had failed to address an asymmetric bargaining position for retail communications providers in negotiations with Openreach. It argued that the OTA2 should take a position on negotiations and that greater Ofcom intervention may be necessary.¹³⁶

A1.133 TalkTalk argued that retail communications providers are unable to negotiate SLAs from Openreach and that Ofcom should require Openreach to provide further service level options at cost.¹³⁷

A1.134 TalkTalk and Vodafone considered that service level guarantee payments do not deter poor performance.¹³⁸ TalkTalk considered that Openreach avoids making SLG payments by applying the standard for copper voice lines (SIN349) in repairing broadband services.¹³⁹

A1.135 *We will consider the performance of the SLA / SLG regime in our forthcoming Wholesale Local Access Market Review. We also considered the efficacy of the SLA / SLG regime in the May 2015 Business Connectivity Market Review consultation.*

¹³² See Ofcom, [Investigation into BT's use of the Deemed Consent Mechanism in relation to the provision of Ethernet Services](#), 6 November 2015.

¹³³ [Sky](#), p. 10-11; [TalkTalk, main response](#), p. 56; [TalkTalk, response to Terms of Reference](#), p. 8.

¹³⁴ BT, [main response](#), pp. 13, 127-128.

¹³⁵ [Home Builders Federation](#), p. 3; [National Farmers Union](#), p. 6; [Nine Group](#), p. 2; [Union Street Technologies](#), p. 2.

¹³⁶ [Sky](#), p. 32.

¹³⁷ [TalkTalk, main response](#), p. 57.

¹³⁸ [TalkTalk, main response](#), pp. 56-59; [Vodafone, main response](#), p. 30.

¹³⁹ [TalkTalk, main response](#), pp. 12 and 57-60.

Ofcom's regulatory approach

- A1.136 There was broad agreement that Ofcom should do more to improve the service quality that Openreach provides. However BT and Prospect argued that the historic regulation of Openreach had diminished service quality by requiring it to cut costs.¹⁴⁰ BT argued that future charge controls should fund improvements to performance against existing service levels.¹⁴¹
- A1.137 The Ofcom Advisory Committee for England argued that there is currently little regulatory provision to compel Openreach to improve its poor performance.¹⁴² With regard to minimum standards, the Communications Consumer Panel and ACOD and others argued that the current minimum standards are unambitious.¹⁴³
- A1.138 Sky argued that Ofcom should require Openreach to meet 'best in class' minimum standards (with operational freedom to do so), not standards based on its historic performance.¹⁴⁴ The Scottish Futures Trust and others argued that Ofcom should implement local monitoring and consider localised competitive conditions in response to problems affecting Scotland in particular.¹⁴⁵ Argyll and Bute Council noted that reliability is an issue across Argyll for both fixed and mobile services.¹⁴⁶
- A1.139 *We agree with stakeholders about the importance of improving Openreach performance and have set out our views on minimum standards in section 5. We have already introduced regional Openreach KPIs and we remain committed to ensuring that consumers experience good quality of service across the UK.*
- A1.140 Which? argued that it is important that Openreach has adequate incentives to improve its performance continually.¹⁴⁷ SSE and TalkTalk stated that Ofcom should consider "linking price rises to quality levels", so that they rise or fall in line with performance, in a manner akin to water prices under Ofwat's Service Incentive Mechanism.¹⁴⁸
- A1.141 BT supported an incentive mechanism to reward outperformance of minimum standards and penalise underperformance.¹⁴⁹ Sky argued that Ofcom should not assume that Openreach can only deliver better service quality if it is able to recover additional costs and should self-fund improvements to service quality.¹⁵⁰
- A1.142 *We consider how to encourage Openreach to deliver good service quality and perform above minimum standards in section 5. To do so we plan to implement new approaches through the market review process. We will consider the level of any future minimum standards in relation to copper repairs and installations in the forthcoming Wholesale Local Access market review.*

¹⁴⁰ BT, [main response](#), p. 130; Prospect, [response to Terms of Reference](#), pp. 2-3.

¹⁴¹ BT, [main response](#), p. 141.

¹⁴² [Ofcom Advisory Committee for England](#), p. 3.

¹⁴³ [Communications Consumer Panel and ACOD](#), p. 12.

¹⁴⁴ [Sky](#), pp. 30-31.

¹⁴⁵ [Scottish Futures Trust](#), p. 14.

¹⁴⁶ [Argyll and Bute Council](#), pp. 4-5.

¹⁴⁷ [Which?](#), p. 11.

¹⁴⁸ [SSE](#), p. 23; TalkTalk, [main response](#), p. 57.

¹⁴⁹ BT, [main response](#), p. 141.

¹⁵⁰ [Sky](#), pp. 29-31.

Coordination and cooperation between communications providers

A1.143 Respondents considered that there are opportunities for Openreach and its wholesale customers in particular to improve how they coordinate in order to deliver better service to consumers. Two individuals described communication problems between Openreach and its wholesale customers.¹⁵¹ BT argued that there is potential to improve interaction between Openreach and its wholesale customers and reduce missed appointments.¹⁵² BT argued that Ofcom should reconsider its proposals to merge Openreach and BT Wholesale in order to remove unnecessary complexity for end users.¹⁵³

A1.144 *We set out our views on the need for industry to improve how it coordinates to improve service quality in section 5.*

Openreach and retail providers' communication with end users

A1.145 Stakeholders, including an individual and Prospect considered that it would be beneficial for end users to be better able to contact Openreach directly and for authorities to coordinate with Openreach more openly.¹⁵⁴ GTC and the Home Builders Federation stated that the construction sector had a poor experience of securing line installations to new developments.¹⁵⁵ BT stated that Openreach is making its operations more transparent through the View My Engineer service.¹⁵⁶

A1.146 The Communications Consumer Panel and ACOD stated that consumers needed more support from their retail communications provider when facing service quality issues and that it was not acceptable for retail communications providers to claim that customers' service quality problems are out of their control.¹⁵⁷ BT and Prospect stated that retail communications providers should show greater responsibility for solving common service quality problems that do not take place on Openreach's network.¹⁵⁸

A1.147 *We set out our views on whether it should be easier for consumers to contact Openreach in certain circumstances and on retail communications providers' responsibilities concerning service quality in section 5.*

Information remedies on network service quality and customer service

A1.148 Stakeholders were divided on the value of additional information remedies in relation to service quality. EE expressed concerns about the quality of the consumer information Ofcom has published in relation to mobile network performance and its usefulness for consumers.¹⁵⁹

¹⁵¹ [Mercer, Mr P.](#), p. 1; [Harington, Mr. H.](#), p. 1.

¹⁵² BT, [main response](#), p. 141.

¹⁵³ BT, [main response](#), pp. 125, 130 and 140.

¹⁵⁴ [Harington, Mr. H.](#), p. 2; [Prospect](#), p. 4; [Stoke St Gregory Parish Council](#), p. 1.

¹⁵⁵ [GTC](#), pp. 2-3; [Home Builders Federation](#), p. 2.

¹⁵⁶ BT, [main response](#), p. 134.

¹⁵⁷ [Communications Consumer Panel and ACOD](#), p. 13.

¹⁵⁸ BT, [main response](#), p. 10; [Prospect](#), pp. 7-8.

¹⁵⁹ EE, [main response](#), pp. 23-25.

- A1.149 TalkTalk argued that the quality of service that MNOs provide is poor, resulting in a high number of dropped calls and low end user satisfaction.¹⁶⁰
- A1.150 However, a number of stakeholders argued that Ofcom should make network service information available to consumers. For example the Ofcom Advisory Committee for England suggested Ofcom should apply a “consistency of service” measure.¹⁶¹ The FSB called for better information provision by Openreach and communication providers for end users as well as new service standards, clearer contracts and minimum speeds.¹⁶² The Ofcom Advisory Committee for Wales argued that Ofcom should assess peak traffic capacity management and reliability at the regional level.¹⁶³ SSE suggested that the sector could adopt approaches used by utilities to measure quality of service, including infrastructure reliability metrics such as “customer interruptions” and “customer minutes lost”.¹⁶⁴
- A1.151 There was broad agreement that different fixed access network operators (i.e. Openreach, Virgin Media, KCOM, CityFibre etc.) are able to offer materially different levels of service quality. BT considered that retail communications providers using the copper network could also provide different end user experiences, despite using the same Openreach inputs. It argued that Ofcom should release information about the different service levels that retail operators provide their customers.¹⁶⁵
- A1.152 The Communications Workers Union argued for the importance of a properly resourced workforce to meet rising customer expectations.¹⁶⁶
- A1.153 *We set out our position on the role of information remedies in improving service quality in section 5. We consider Ofcom’s conclusions related to consumer-oriented information remedies more broadly in section 7.*

Compensation for service quality problems

- A1.154 SSE noted that statutory compensation arrangements are in place for utilities to compensate consumers in the event of certain service quality issues. It recommended that Ofcom and government institute similar arrangements for communications services.¹⁶⁷ Which? supported automatic compensation payments and argued for greater transparency around the compensation that is available to consumers.¹⁶⁸ The National Farmers Union argued that compensation for businesses should reflect the impact of poor service.¹⁶⁹
- A1.155 *We set out our proposals to introduce automatic compensation for telecoms consumers who experience service quality problems in section 5.*

¹⁶⁰ TalkTalk, [main response](#), p. 14.

¹⁶¹ [Ofcom Advisory Committee for England](#), p. 5.

¹⁶² [Federation of Small Businesses](#), p. 17.

¹⁶³ [Ofcom Advisory Committee for Wales](#), p. 1.

¹⁶⁴ [SSE](#), pp. 4-5.

¹⁶⁵ BT, [main response](#), pp. 129-130.

¹⁶⁶ [Communications Workers Union](#), p.2.

¹⁶⁷ [SSE](#), p. 23.

¹⁶⁸ [Which?](#), p. 2.

¹⁶⁹ [National Farmers Union](#), p. 6.

Strengthening Openreach's independence

A1.156 In the Discussion Document, we asked stakeholders whether there are changes in competitive outcomes or the overall market context that might suggest the need to update or evolve the current model of fixed access network functional separation. A large number of respondents provided submissions regarding BT's vertical integration. These responses are summarised below, grouped thematically as follows:

- i) concerns with the current model of functional separation;
- ii) costs and benefits of a model of structural separation;
- iii) alternative proposals for Openreach's governance; and
- iv) the alternative arrangements in Northern Ireland.

Concerns with the current model of functional separation

Strategic decision making within BT Group

A1.157 A number of respondents submitted that, as a result of Openreach's vertical integration within BT Group, strategic decisions on investment are taken at BT Group level. This includes decisions on which areas to invest in and which new technologies to deploy. Respondents submitted that other communications providers who purchase Openreach wholesale products do not have the same opportunity to influence decisions regarding the network. Respondents alleged that these decisions will consequently favour the interests of BT's downstream retail divisions over the interests of competing downstream communications providers.¹⁷⁰ By way of example, Three and Sky pointed to BT's prioritisation of investment in NGA and pay TV (which benefit BT's retail operations) over investments in its copper network (which benefit all users of Openreach's network).¹⁷¹

A1.158 Colt argued that vertical integration prevented 'disruptive competition' and delayed the introduction of new products. Eol-regulation would not resolve this issue, since it applies only once products have been introduced.¹⁷²

A1.159 BT responded that, pursuant to the Undertakings, Openreach must make commercial decisions without considering BT's downstream divisions. Further, performance-based pay of Openreach's senior management was independent of BT Group results. These Undertakings removed Openreach's incentive to discriminate.¹⁷³ BT further submitted that under-investing in its copper networks would undermine its own downstream services.¹⁷⁴

¹⁷⁰ [Colt](#), p. 14-15; [Sky](#), pp. 9-10, 18; Vodafone, [main response](#), pp. 25-28, [Three](#), pp. 27-29; [UKB Group](#), p. 26; [FCS](#), p. 10; [BCS](#), p. 6; [GTC](#), pp. 3-4; [Union Street Technologies](#), p. 2; [Nine Group](#), p. 2; [Powered by Vision](#), p. 4.

¹⁷¹ [Three](#), pp. 27-28. [Sky](#), pp. 9-10.

¹⁷² [Colt](#), pp. 14-15.

¹⁷³ BT, [main response](#), p. 90.

¹⁷⁴ BT, [main response](#), p. 92.

A1.160 BT added that Openreach benefits from BT Group's world-leading technological research and development. These benefits are passed on to all communications providers through EOI.¹⁷⁵

A1.161 *We consider these issues in section 6.*

Openreach capital and management constraints

A1.162 A number of respondents submitted that, as part of BT Group, Openreach must compete with other divisions for capital expenditure and management time and focus.¹⁷⁶ TalkTalk and INCA questioned the lack of new capital expenditure earmarked for investment in the network over the next decade.¹⁷⁷ Vodafone further submitted that BT may be too large and complicated an organisation to be run effectively.¹⁷⁸

A1.163 TalkTalk suggested that a structurally separated Openreach could easily raise finance.¹⁷⁹ It added that it might also be better managed, since management would be directly accountable to external shareholders.¹⁸⁰

A1.164 BT responded that Openreach's capital expenditure has increased both in real terms and as a share of the BT Group total capital expenditure and revenue. BT further submitted, citing external benchmarking data from a Nomura report, that BT's invested capital per premises was higher than all comparators in their survey.¹⁸¹ BT further argued that there was a greater risk that a vertically separated Openreach would be run for cash at the expense of investment by owners unconnected with downstream retail operations.¹⁸²

A1.165 *We consider these issues in section 6.*

Profit allocation

A1.166 Sky, Vodafone, TalkTalk and BCS submitted that Openreach's stable revenues have been used to finance other activities within BT Group. This included shoring up group finances, acquiring content rights, and the acquisition of EE.¹⁸³ Vodafone and BCS argued that BT is able to use Openreach profits to make retail investments, such as content rights, which could not be justified on a stand-alone retail basis (and to the detriment of quality of service). They argue that this allows BT to leverage wholesale dominance into adjacent retail markets.¹⁸⁴

¹⁷⁵ BT, [main response](#), p. 99.

¹⁷⁶ [Sky](#), pp. 9-10; [Three](#), p. 27; TalkTalk, [main response](#), pp. 22; Vodafone, [main response](#), p. 41.

¹⁷⁷ TalkTalk, [main response](#), p. 23; [INCA](#), p. 8.

¹⁷⁸ Vodafone, [main response](#), p. 41.

¹⁷⁹ TalkTalk, [main response](#), p. 24.

¹⁸⁰ TalkTalk, [main response](#), p. 22.

¹⁸¹ BT, [main response](#), p.100.

¹⁸² BT, [main response](#), p. 98.

¹⁸³ [Sky](#), p. 10; Vodafone, [main response](#), pp. 42; [BCS](#), p. 6; TalkTalk, [main response](#), p. 23.

¹⁸⁴ Vodafone, [main response](#), pp. 41-42; [BCS](#), p. 6.

- A1.167 With regard to sports rights, Virgin Media responded that, irrespective of BT Group's ownership of Openreach, BT Retail would need to invest in content to offer triple-play bundles and that it could fund this without subsidy from Openreach.¹⁸⁵
- A1.168 *BT's vertically integrated structure means that it is able to use cash generated from its regulated activities to fund unregulated activities elsewhere in the Group. We do not consider the issue of moving profits around the Group in our market reviews, when deciding if and how to regulate prices. If profits are earned fairly, i.e. in accordance with regulation and competition law, BT has the right to invest those profits as it sees fit, again, as long as this is in accordance with regulation and competition law. (For a discussion of the concerns that BT has been allowed to make excess returns on its regulated services see 'BT's returns in regulated markets' below.)*

Competitive distortion in relation to superfast broadband

- A1.169 Sky submitted that BT's vertical integration gives it an advantage over other communications providers in upgrading consumers from copper to superfast broadband, since internal transfers between Openreach and other BT divisions are 'wooden dollars' and do not affect overall BT Group profitability. To other communications providers, Openreach charges are real economic costs that impact their profitability directly. Sky claimed this difference distorted competition. It added that, as a result, other communications providers face multi-year payback periods for upgrading customers, while BT Group's payback is immediate.¹⁸⁶
- A1.170 The Equality of Access Board noted that the remedy in place to address the issue of 'wooden dollars' is price regulation of products for which BT has SMP.¹⁸⁷
- A1.171 Sky submitted that there is a risk that BT will use this advantage to establish a dominant position in superfast broadband at the retail level. It pointed to BT's 74% share of superfast connections on the Openreach network, compared to 40% for all broadband connections on the Openreach network.¹⁸⁸ Responding to the DCR Terms of Reference, Sky submitted that it had approached Openreach with offers of guaranteed wholesale volumes in return for higher returns on upgrading customers to fibre, but Openreach failed to engage with Sky's offer. Sky said that this offer would have been attractive to a separated Openreach.¹⁸⁹
- A1.172 BT submitted that Ofcom had investigated an alleged margin squeeze on superfast broadband and determined the allegation to be unfounded. BT further submitted that its regulatory financial statements show business performance on the basis of transfer charges and that any competition law assessment would take such charges into account.¹⁹⁰ BT argued that Sky and TalkTalk had made strategic choices to focus on the LLU networks in which they had invested, instead of promoting superfast broadband (which bypasses LLU equipment).¹⁹¹

¹⁸⁵ [Virgin Media](#), p. 32.

¹⁸⁶ [Sky](#), pp. 7-8.

¹⁸⁷ [Equality of Access Board](#), p. 4.

¹⁸⁸ [Sky](#), p. 7.

¹⁸⁹ Sky, [response to DCR Terms of Reference](#), p. 6.

¹⁹⁰ BT, [main response](#), p. 94.

¹⁹¹ BT, [main response](#), pp. 95-96.

- A1.173 *We recognise that BT has an incentive to exploit the difference in the underlying economics faced by BT's downstream businesses versus other downstream competitors but this incentive does not per se mean there is concern. We would be concerned if BT was able to abuse this difference and engage in a margin squeeze.*
- A1.174 *A combination of regulatory tools enables us to limit BT's ability to engage in margin squeeze. For example, amongst other things, price regulation of Openreach's SMP products based on costs. In addition, where BT has pricing flexibility on the upstream wholesale product, as with VULA, we have imposed an ex ante margin squeeze test.*¹⁹²

Price discrimination

- A1.175 A number of respondents submitted that BT Group had discriminated against other communications providers through its pricing. They alleged that BT had raised the prices of unregulated or lightly regulated Openreach wholesale products of which other communications providers use proportionately more, while favourably pricing the products that BT Retail uses more extensively.¹⁹³ TalkTalk and Three alleged BT Group had done so in relation to a series of specified products, including Ethernet leased lines.¹⁹⁴
- A1.176 Three added that even where BT and competitors consume a similar proportion of services, BT can discriminate by structuring charges to favour its own network structure and design.¹⁹⁵ TalkTalk argued that, in 2012, Openreach introduced volume discounts on VULA that only BT Retail could achieve.¹⁹⁶
- A1.177 BT responded that communications providers can choose the services they purchase from Openreach, which offers a wide range of products equivalently to all communications providers, including downstream BT.¹⁹⁷ BT pointed out that in relation to the largest products in revenue terms (WLR and MPF), BT's downstream divisions in fact receive a poorer service in terms of in-tariff repair timescales on the products it purchases than do its competitors.¹⁹⁸
- A1.178 *In designing charge control structures, we consider a number of principles when evaluating whether it would be appropriate to combine certain services together in a broad basket or keep them in separately controlled narrow baskets*¹⁹⁹. *The main disadvantage of a broad basket is that, in some circumstances, the regulated firm can exploit the flexibility to set relative charges in this way.*
- A1.179 *However, Ofcom has often chosen to use broad baskets, unless there are compelling reasons not to do so in the specific circumstances of a charge control, because they confer a number of advantages, in that they:*

¹⁹² This ex ante margin squeeze test is currently under appeal.

¹⁹³ TalkTalk, [main response](#), pp. 18-19; [Three](#), pp. 23-24.

¹⁹⁴ TalkTalk, [main response](#), pp. 35; [Three](#), pp. 23.

¹⁹⁵ [Three](#), p. 23.

¹⁹⁶ TalkTalk, [main response](#), p. 19.

¹⁹⁷ BT, [main response](#), p. 92.

¹⁹⁸ BT, [main response](#), pp. 92-93.

¹⁹⁹ A broad basket gives BT some pricing freedom to determine the structure of prices which meet the charge control compared to a narrow basket, which imposes tighter controls on the charges of individual services.

- *may be more likely to result in charges which recover costs in an efficient way;*
- *may allow BT to better respond to changes in demand and costs by changing relative prices; and*
- *allow BT to set prices to encourage efficient migration between an old service/technology and a new replacement alternative.*

A1.180 *We recognise that as a vertically integrated firm, BT has the incentive to set wholesale charges which favour products used proportionately more by BT's downstream businesses than its competitors. We consider this incentive and seek to limit BT's ability to act on it when assessing how broad baskets should be in the context of a charge control.*

A1.181 *However, the need to balance competing considerations combined with information asymmetries, means there will always be a risk of discriminatory behaviour going either undetected and/or unresolved until a charge control is re-set.*

Product discrimination

A1.182 A number of respondents submitted that BT Group had discriminated against other communications providers through the statement of requirements (SoR) process, by favouring BT's own SoRs and by designing products in ways which favour BT Retail.²⁰⁰ Sky submitted an analysis of SoR requests showing that a higher proportion of SoRs made by BT are accepted than SoRs made by other communications providers and that BT's SoRs are developed more quickly than those made by other communications providers.²⁰¹ By way of example, Sky, TalkTalk, and Three listed a series of communications provider-made SoRs which were declined or delayed (including MPF products and requests to share network information).²⁰² Sky and TalkTalk further pointed to single-order GEA as a product developed by Openreach at BT's request without taking the views of other communications providers into account.²⁰³

A1.183 The Equality of Access Board responded that it was aware of concerns that the business case for Openreach to accept an SoR is only successful when a BT downstream division commits to the volume of business necessary for Openreach to achieve a commercial return. This can give the appearance of BT divisions having non-equivalent influence over the requirements process. It noted that it had found no evidence of breaches of the Undertakings in relation to SoRs.²⁰⁴

A1.184 BT responded that the SoR process is run on an EOI basis and Openreach decides on SoR requests transparently, based on whether there is an objective business case. BT noted that over the past ten years, there had been only one complaint to Ofcom regarding the SoR process, which Ofcom determined to be unfounded.²⁰⁵

²⁰⁰ Sky, p. 9; TalkTalk, [main response](#), pp. 17-18; Vodafone, [main response](#), pp. 42-43; [Three](#), pp. 26-27; [SSE](#), p. 19; [INCA](#), p. 9.

²⁰¹ Sky, p. 9.

²⁰² Sky, [response to DCR Terms of Reference](#), pp. 23-25; TalkTalk, [main response](#), p. 18; [Three](#), p. 26-27.

²⁰³ Sky, [Response to DCR Terms of Reference](#), pp. 24-25; TalkTalk, [main response](#), pp. 17-18.

²⁰⁴ [Equality of Access Board](#), p. 4.

²⁰⁵ BT, [main response](#), p. 96.

- A1.185 BT disputed Sky's analysis of SoR requests, submitting instead that Openreach had delivered more SoRs from other communications providers than from BT and that SoRs for other communications providers were on average delivered more quickly.²⁰⁶ BT further addressed the specific SoRs Sky listed as evidence of discrimination, providing reasons for their rejection.²⁰⁷
- A1.186 *We looked at the issue of product discrimination as part of our SOR monitoring programme²⁰⁸. Our analysis did not find any significant differences in SOR acceptance rates and completion times between products or between downstream communications providers including BT. We did find that Openreach accepts a significantly higher proportion of its own SORs than of downstream communications providers. There are a number of legitimate reasons why this may be the case. For example, Openreach has a clearer view of product development costs than any one communications provider.*
- A1.187 *However, despite efforts to address transparency in the 2014 Fixed Access Market Review²⁰⁹, there is some indication that there may still be issues around the transparency of SOR assessment decisions. Insufficient transparency would make it more difficult for communications providers to assess whether Openreach accepts or rejects SORs on the basis of an objective business case as it is required to do. We are currently assessing the evidence on this and will take action as appropriate.*
- A1.188 *Finally we recognise communications providers' concerns about the quality of service aspects of the process (e.g. Openreach's SOR response time) which we will consider in forthcoming market reviews.*

Quality of service and discrimination

- A1.189 A number of respondents submitted that even if issues with Openreach's level of QoS apply to BT's own retail divisions and other communications providers equally, these issues can nonetheless have discriminatory effects.
- A1.190 Stakeholders argued lower quality of service for all can lead to a 'flight to brand' due to a perception among consumers that they are less likely to experience problems with BT.²¹⁰ Vodafone cited survey evidence indicating that around a third of businesses and consumers believed they were less likely to experience problems with service installations or repairs with BT than with competitors.²¹¹
- A1.191 Sky argued that poor QoS benefits BT by reducing switching; BT has the largest retail base and so stands to lose most from high levels of consumer switching.²¹² TalkTalk added that a separated Openreach would have stronger incentives to

²⁰⁶ BT, [Annex 2](#), pp. 164-165.

²⁰⁷ BT, [Annex 2](#), p. 165.

²⁰⁸ In the [2014 Fixed Access Market Review statement](#), we launched a programme to monitor the operation of the SOR process for a period of 12 months. This was in response to communications provider claims during the market review that SORs are (i) addressed too slowly and (ii) often unreasonably rejected with insufficient information to understand the justification for the rejection. See pp. 199-200.

²⁰⁹ Ofcom, [2014 Fixed Access Market Review statement](#), pp. 198-199.

²¹⁰ [Sky](#), p. 11; [TalkTalk](#), [main response](#), p. 24; [Vodafone](#), [main response](#), p. 41; [SSE](#), p. 20.

²¹¹ [Vodafone](#), [main response](#), p. 41.

²¹² [Sky](#), p. 11.

improve service from SLGs, since SLG payments to BT Retail would no longer just be internal transfers within the BT Group.²¹³

A1.192 Three argued that BT provides itself with higher QoS. It cited the Equality of Access Board's Annual Report for 2014, which found that Openreach provided a greater percentage of orders on time to BT's downstream divisions than to other communications providers.²¹⁴

A1.193 BT responded that a vertically integrated operator has stronger incentives to improve upstream performance than a structurally separated network operator.²¹⁵ It noted that other communications providers also have well-established retail brands and some have better reputations than BT for service. BT added that most service issues experienced by consumers arise beyond the Openreach access networks and communications providers could take steps to address these issues directly.²¹⁶

A1.194 *There is some evidence to suggest that a proportion of consumers do consider that they are less likely to have quality of service problems with BT than with competitors, for example:*

- *BDRC research from our 2014 FAMR²¹⁷ shows that 28% of SMEs and 35% of residential consumers agree that 'you are less likely to have a problem with service installation or repair from BT than with competitors'.*
- *The qualitative research we commissioned for this review from Jigsaw²¹⁸ confirmed that some smaller SMEs are more inclined to use BT Retail as their retail provider, assuming that the brand's apparent association with Openreach will mean that their service is less prone to breakdown.*

A1.195 *In contrast, broadband complaints data from June 2013 to June 2015 suggests that BT has amongst the highest rate of complaints for fixed broadband²¹⁹.*

A1.196 *While for some customers there may be a 'flight to brand' effect of poor quality of service, there is in our view no conclusive evidence to suggest that this benefits BT. Even those customers that believe they are more likely to receive a better quality of service from BT may not rank quality of service high enough over other factors (such as cost) to switch to BT. For example, research from BDRC²²⁰ shows 'price', 'performance (e.g. broadband speed)', and 'customer service' all rank above 'responsiveness to faults' and 'trusted supplier brand' when determining choice of communications provider.*

A1.197 *Furthermore, rather than dampening levels of switching, issues with service quality appear to be a significant driver of switching. They are second only to price as a reason why residential consumers switch provider: in 2015 29% of residential consumers who had switched broadband provider in the previous 12 months did so*

²¹³ TalkTalk, [main response](#), p. 24.

²¹⁴ [Three](#), p. 27.

²¹⁵ BT, [main response](#), p. 91.

²¹⁶ BT, [main response](#), p. 92.

²¹⁷ Ofcom, [2014 Fixed Access Market Review consultation](#): pp. 86-87, Figure A9.23 and A9.24.

²¹⁸ Jigsaw Research, *Quality of Service in Telecoms*, February 2016, p. 22.

²¹⁹ [Telecoms and Pay TV Complaints Q2 \(April to June\) 2015](#): p.18, Figure 5

²²⁰ BDRC International, [Fixed Line Installation and Fault Repair Summary Report](#), April 2013, pp. 30-31.

due to service quality issues.²²¹ Given that it has the largest retail broadband customer base, BT would stand to lose the most from customers switching provider as a result of poor quality of service.

Cost allocation

A1.198 Three submitted that BT can increase the costs of all regulated products in order to try to increase regulated prices. It pointed to Ofcom's cost allocation review, which found BT to be over-allocating costs to regulated services, including over 20% of BT Group's general overheads.²²² Vodafone submitted that BT has been misallocating costs to BT Group's overall benefit, citing a report by Cartesian for Ofcom.²²³

A1.199 BT responded that it is subject to the most comprehensive accounting separation regime in the world, offering the highest degree and transparency for all communications providers.²²⁴ BT added that Ofcom has the power to determine BT's cost allocation methodologies and decides on appropriate cost allocation in its charge controls.²²⁵ BT further submitted that the Cartesian report for Ofcom had found that, while an alternative allocation of costs might be more appropriate, BT had not acted improperly.²²⁶

A1.200 Redburn argued that the DCR should have considered the question of how to capture the windfall resulting from a lower cost of capital compared to when certain regulated prices were fixed and submitted that excess earnings could be redirected towards infrastructure investments.²²⁷

A1.201 *We set out our response on these issues in section 6.*

BT / EE merger

A1.202 Vodafone²²⁸ and Three²²⁹ also raised concerns about BT's acquisition of EE. A specific concern is that BT's incentives and ability to discriminate will be exacerbated by BT's deepening levels of vertical integration, particularly in the context of the BT/EE merger.

A1.203 *We note the CMA has concluded that the merger is not expected to result in a substantial lessening of competition in any market in the UK.²³⁰ While we recognise that the merger may increase the complexity of regulation, e.g. margin squeeze regulation, we are confident that we have the necessary regulatory tools to address concerns.*

²²¹ Ofcom, [The Consumer Experience, 2015: Research Annex](#), February 2016, p. 42, Figure 33.

²²² [Three](#), pp. 25-26 (citing Ofcom, [Review of BT's Cost Attribution Methods](#), consultation, 12 June 2015).

²²³ Vodafone, [main response](#), p. 43 (citing Cartesian, [BT Cost Attribution Review](#), 8 June 2015).

²²⁴ BT, [main response](#), p. 97.

²²⁵ BT, [main response](#), p. 97.

²²⁶ BT, [main response](#), p. 97.

²²⁷ Redburn, [main response](#), p. 6.

²²⁸ Vodafone, [main response](#), pp. 20-21.

²²⁹ [Three](#), p. 28.

²³⁰ [CMA, BT Group plc and EE Limited: A report on the anticipated acquisition by BT Group plc of EE Limited, January 2016.](#)

Costs and benefits of structural separation

Pro-competitive outcomes enabling deregulation

- A1.204 A number of stakeholders submitted that the structural separation of BT and Openreach would provide a range of pro-competitive outcomes by resolving the concerns with the current model of functional separation. They argued that following structural separation, the vast majority of the Undertakings and complex behavioural rules for dealing with vertical integration (like the VULA margin squeeze) would no longer be required. This would enable significant simplification of regulation.²³¹ Sky added that this would free Openreach and Ofcom resources to address other issues, such as quality of service.²³²
- A1.205 *Whilst structural separation would enable us to remove regulation associated directly with functional separation and Eol, we would continue to have to regulate the separated firm in markets where it was found to have SMP. Such regulation would likely include charge controls and policies on quality of service.*
- A1.206 A number of respondents, including Sky and Vodafone, pointed to examples of other countries where structural separation has been achieved and works effectively including New Zealand, Sweden, and Singapore.²³³
- A1.207 Referencing a report by Plum Consulting, BT responded that other countries which implemented structural separation to promote FTTP suffered poor outcomes, including Australia (where roll-out was slow) and New Zealand (where adoption was low).²³⁴ BT highlighted the issues Singapore has faced with structural separation, including problems with coordination and systems compatibility, provision and repair services and network redundancy. BT further emphasized the differences between Singapore and the UK in population size and density, legislation easing installation of fibre and level of public subsidy.²³⁵
- A1.208 *We have considered international examples as part of our analysis, see section 6 for further details.*

Promoting infrastructure competition

- A1.209 A number of respondents submitted that, following structural separation, BT's Retail business would become contestable and other network providers could offer fibre access to BT Retail in certain areas.²³⁶ Sky argued that the scale of BT's retail base is important to unlocking competition at the network level due to the high fixed costs of rolling out upstream networks, in particular FTTP.²³⁷ Sky further submitted that a structurally separated Openreach would also have a stronger incentive to compete

²³¹ Sky, pp. 2, 16-17; TalkTalk, [main response](#), pp. 21-22; Vodafone, [main response](#), pp. 50-51, 54.

²³² Sky, p. 16.

²³³ Sky, p. 16; Vodafone, [main response](#), p. 37.

²³⁴ BT, [main response](#), pp. 112-114; BT, [Annex: Plum This Connected Isle](#).

²³⁵ BT, [main response](#), pp. 113-114.

²³⁶ Sky, pp. 2, 14-15; CityFibre, [main response](#), p. 14; UKB Group, pp. 1-2, 28; TalkTalk, [main response](#), p. 24; Vodafone, [main response](#), p. 54.

²³⁷ Sky, pp. 2, 14-15.

for other major downstream operators, since it could no longer rely on BT's Retail business, which may lead to QoS improvements and FTTP deployment.²³⁸

- A1.210 Sky, TalkTalk, and Vodafone submitted that a separated Openreach would be able to collaborate with all communications providers, for instance to coordinate co-investment, anchor tenancy, and volume discount agreements with its customers to mitigate investment risks.²³⁹ TalkTalk pointed to mobile masts as an example, submitting that independently owned masts have a higher average of tenants per site than MNO-owned masts. According to TalkTalk, this indicates that independent mast owners have higher incentives to supply multiple customers.²⁴⁰ Vodafone pointed to wholesale-only businesses which have deployed FTTP networks in other countries, including Sweden and The Netherlands.²⁴¹
- A1.211 BT responded that BT Consumer has not received any serious offers of wholesale network access from other communications providers. BT submitted that almost all commercial telecoms providers are vertically integrated at the network and retailing levels, indicating that this is an efficient structure.²⁴²
- A1.212 BT argued that vertical integration provides strong investment incentive benefits citing a report by RBB Economics. A vertically integrated firm can reduce risk through better coordination and timing of investments and avoid 'double marginalisation' problems.²⁴³
- A1.213 According to BT, these benefits could not be fully replicated by structurally separate firms because of the uncertainty and complexity involved in large telecoms infrastructure investments. Writing effective long-term contracts for such investments would be difficult. This risk of 'contractual incompleteness' hampers investment.²⁴⁴
- A1.214 *Given the risks involved in switching supplier, amongst other things, it is not clear that the notion that BT Consumer could become contestable, particularly in the short term, is a credible one. There remains uncertainty as to whether competitors to Openreach would ever have the necessary scale to support BT Consumer as a customer. Contestability could be further challenged if alternative networks were not widely available initially: it would require BT Consumer to source network access from more than one supplier. Given the high costs associated with having multiple wholesale providers, it is unclear whether BT Consumer would be sufficiently incentivised to switch from one national provider to multiple local providers.*

Costs and risks associated with structural separation

- A1.215 Sky and TalkTalk submitted that de-mergers are common and can be relatively simple, as illustrated by a series of telecoms de-mergers including the recent de-merger of Telecoms New Zealand. They added that BT and Openreach systems, staff and assets are already functionally separate.²⁴⁵ TalkTalk added that BT

²³⁸ [Sky](#), p. 15.

²³⁹ [Sky](#), p. 15; TalkTalk, [main response](#), pp. 21-22; Vodafone, [main response](#), p. 36.

²⁴⁰ TalkTalk, [main response](#), pp. 21-22.

²⁴¹ Vodafone, [main response](#), p. 44.

²⁴² BT, [main response](#), p. 105.

²⁴³ BT, [main response](#), pp. 103-105; BT, [Annex: RBB Economics: Vertical Integration of Openreach](#).

²⁴⁴ BT, [main response](#), p. 104.

²⁴⁵ [Sky](#), p. 16; TalkTalk, [main response](#), pp. 28-29.

pensions should not form an obstacle to demerger, referring to a consultancy report it had commissioned and pointing out that when BT de-merged Cellnet the pension issue was resolved simply and effectively.²⁴⁶

- A1.216 Colt submitted that although structural separation would remove the suspicion of tactical and strategic coordination between BT and Openreach, it would be a costly solution that would take years to implement. It argued that many of the concerns with the current model could instead be addressed by passive access remedies.²⁴⁷
- A1.217 Virgin Media, CityFibre, and KCOM argued that structural separation would entail considerable costs and uncertainty which would cause concern among investors in infrastructure, which could reduce and delay investment in FTTP.²⁴⁸ CityFibre submitted that structural separation should only be considered when significant FTTP infrastructure build is underway.²⁴⁹
- A1.218 The BT Pension Scheme submitted concerns about any plans that would materially weaken BT's financial strength or which would lead to the separation of part of the BT pension scheme or lead to a transfer of part of the scheme's membership to another company (on the basis that this could affect the scope of the Crown Guarantee).²⁵⁰
- A1.219 Referencing a report by KPMG which estimated the possible effects of separation, BT responded that implementing structural separation would cause huge uncertainty and delay BT's investments.²⁵¹ Structural separation would remove the ability for a vertically integrated firm to co-ordinate large scale investments, leading to lower levels of investment. Sub-optimal investment would in turn be detrimental to the UK's economic growth and competitiveness.²⁵²
- A1.220 BT further highlighted a number of practical challenges to structural separation. It considered that separation would present material challenges for its pension scheme. Separation would also require updating legal agreements, which risks opening up costly renegotiations around wayleaves, premises, and supply contracts.²⁵³ Moreover, it is not clear that BT's shareholders would consent to a transfer of assets to a legally separate entity.²⁵⁴ BT submitted that the costs of separation would be borne by consumers, competitors or investors in BT. These resources would otherwise be invested in new services and quality.²⁵⁵
- A1.221 BT added that it is not clear how network assets that come to be supplied by competitive markets over time could be transferred back from a structurally separated Openreach to BT.²⁵⁶ BT further noted that, if structurally separated, it

²⁴⁶ TalkTalk, [main response](#), p. 29; TalkTalk, [Annex J](#), BT Group Pensions: A report for TalkTalk.

²⁴⁷ [Colt](#), pp. 15-16.

²⁴⁸ [Virgin Media](#), p. 32; CityFibre, [main response](#), pp. 9, 49; [KCOM](#), p. 2.

²⁴⁹ CityFibre, [main response](#), p. 54.

²⁵⁰ [BT Pension Scheme](#), pp. 5-6.

²⁵¹ BT, [main response](#), p. 106; BT, [Annex: KPMG Delivering Britain's Digital Future](#).

²⁵² BT, [main response](#), pp. 106-107; BT, [Annex: KPMG Delivering Britain's Digital Future](#).

²⁵³ BT, [main response](#), pp. 108-109.

²⁵⁴ BT, [main response](#), p. 110.

²⁵⁵ BT, [main response](#), p. 107.

²⁵⁶ BT, [main response](#), p. 110.

would be competing with a vertically integrated operator (Virgin Media) in two-thirds of the UK, which would distort the market to Virgin Media's benefit.²⁵⁷

A1.222 *We consider these issues in section 6.*

Alternative Openreach governance structures

A1.223 Vodafone proposed a model of structural separation under which Openreach's ducts and poles would be owned by a separate company ('Asset Co') from its fibre, copper, and active network infrastructure (owned by 'Net Co'), which could remain subject to common ownership by BT.²⁵⁸ Vodafone proposed that a structurally separated Openreach could be cooperatively owned by several downstream providers. Virgin Media also explored this option, but concluded it may result in a number of new challenges.²⁵⁹

A1.224 CityFibre opposed any regulatory outcomes that entrench an Openreach infrastructure monopoly, submitting that any decisions on BT's structure should not diminish effective competition in the infrastructure market.²⁶⁰

A1.225 A number of respondents proposed further ways in which Openreach could be given more autonomy within functional separation. TalkTalk proposed making Openreach a separate legal entity as a subsidiary of BT Group with autonomy over staffing and spending (including the ability to raise funds directly).²⁶¹ Sky submitted that Openreach should have its own fully independent Board with financial autonomy.²⁶² TalkTalk and Sky further proposed strengthening the Undertakings and permitting fewer links between BT and Openreach, including through brand dissociation.²⁶³

A1.226 With regard to legal separation, Vodafone submitted that it would be difficult to devise a governance arrangement that would significantly extend Openreach's independence from BT if the BT Group still makes key financial capital allocation decisions and takes ultimate responsibility for Openreach's liabilities.²⁶⁴

A1.227 *We consider these issues in section 6.*

The Equality of Access Board

A1.228 Sky submitted that the Equality of Access Board should be made fully independent and external to BT with 'audit style' access rights and stronger powers to enforce compliance with Undertakings.²⁶⁵ TalkTalk proposed that the Equality Advisory Board should be strengthened and have no BT Group members.²⁶⁶

²⁵⁷ BT, [main response](#), p. 105.

²⁵⁸ Vodafone, [main response](#), pp. 50; Vodafone, [Annex 5](#), The benefits of structural separation: A New Zealand Study.

²⁵⁹ Vodafone, [main response](#), pp. 53-54; [Virgin Media](#), p. 31.

²⁶⁰ CityFibre, [main response](#), pp. 5, 11, 14, 52.

²⁶¹ TalkTalk, [main response](#), pp. 30-32.

²⁶² [Sky](#), p. 20.

²⁶³ TalkTalk, [main response](#), pp. 30-32; [Sky](#), p. 20.

²⁶⁴ Vodafone, [main response](#), pp. 52-53.

²⁶⁵ [Sky](#), p. 20.

²⁶⁶ TalkTalk, [main response](#), p. 31.

- A1.229 The Ofcom Advisory Committee for Scotland submitted that the Equality of Access Board was neither independent nor transparent and that its members lacked relevant sector knowledge. It recommended that representatives of Openreach's largest customers (such as Sky and Vodafone) be made members and that Openreach's governance should incorporate a regional element representing Nations and Regions.²⁶⁷
- A1.230 The Equality of Access Board Independent Members stated that the Board has at all times acted independently and that it should retain a BT chair (although it recognised the benefits in external perceptions of having an independent chair). They submitted that having a BT non-executive director as a member facilitates relaying messages to the BT Board.²⁶⁸
- A1.231 BT responded that the Equality of Access Board operates independently, with three of its five members being independent of BT and that Ofcom can object to members' appointment. It added that the Board operates transparently, often inviting communications providers to present at its quarterly meetings.²⁶⁹
- A1.232 *We consider that the EAB has been effective within the bounds of its role over the past ten years. It has demonstrated its independence from BT in its work. For example, the EAB has often taken a harder line than BT on the severity of breaches, classifying as non-trivial breaches BT had considered trivial. Under the current regulatory model, we have not had concerns about the EAB's composition.*
- A1.233 *As we pursue a new model of separation, we will need to consider the role of the EAB. This will form part of the next phase of work.*

Northern Ireland

- A1.234 Rainbow Communications submitted that functional separation of BT should be implemented in Northern Ireland, noting that BT employs a similar number of staff in Northern Ireland and Wales. It argued that retail competitors are disadvantaged by having to rely on BT to install and maintain their service, which is detrimental to competition. It highlighted BT Retail's success in selling FTTC broadband and the withdrawal of several communications providers from the SME business communications market in Northern Ireland.²⁷⁰
- A1.235 The Ofcom Advisory Committee for Northern Ireland urged Ofcom to carefully consider the evidence on whether functional separation could be extended to Northern Ireland in a way that benefits consumers.²⁷¹
- A1.236 The Equality of Access Board submitted that BT's Undertakings in Northern Ireland are generally less onerous and recognised that communications providers have expressed concerns about this situation. Although BT has made efforts to meet the intent of the Undertakings in Northern Ireland, the Board stated that a binding commitment would provide communications providers with greater reassurance.²⁷²

²⁶⁷ [Ofcom Advisory Committee for Scotland](#), p. 3.

²⁶⁸ [Equality of Access Board Independent Members](#), p. 1.

²⁶⁹ BT, [main response](#), p. 101.

²⁷⁰ [Rainbow Communications](#), pp. 3-4.

²⁷¹ [Ofcom Advisory Committee for Northern Ireland](#), p. 1.

²⁷² [Equality of Access Board](#), p. 4.

- A1.237 BT responded that although BT Northern Ireland's people and assets have not been moved to Openreach, other elements of the Undertakings, including EOI requirements, apply equally to Northern Ireland. BT noted that it has voluntarily implemented further elements of the Undertakings, including around access to information, as part of its local Code of Practice. In the absence of any evidence of discrimination against other communications providers, BT submitted that changes to the regulatory status in Northern Ireland would be unnecessary and disproportionate.²⁷³
- A1.238 *At the time of Ofcom's Strategic Review of Telecoms in 2005, it was considered disproportionate to split BT's small and geographically separate (from Great Britain) engineering workforce in Northern Ireland to form Openreach in Northern Ireland.*
- A1.239 *Governance structures were put in place, such as the Northern Ireland Telecoms Stakeholders Forum hosted by Ofcom, and BT's Regulatory Compliance Committee, to ensure transparency in how BT delivered its Undertakings in Northern Ireland. Ofcom has also worked closely with BT's Group Equality of Access Office to ensure all providers in Northern Ireland are treated equitably.*
- A1.240 *Since the arrangements were put in place, there is now ten years' evidence to assess how BT has delivered the Undertakings in Northern Ireland, and specifically, BT Wholesale's role as Openreach's agent in Northern Ireland. We have begun our assessment of this evidence, taking into account wider market changes in Northern Ireland and across the UK, with a view to understanding the implications for BT, local competitors and consumers, including businesses, in Northern Ireland.*
- A1.241 *We will consider whether the existing arrangements in Northern Ireland remain appropriate as part of the next phase of our work. Our starting position is that the same model should apply across the UK. However we would need to be satisfied that such an arrangement would not be disproportionate.*

Empowering and protecting consumers

- A1.242 In the Discussion Document we set out our strategic framework for empowering consumers together with a number of potential areas where further work might be needed.

Risks to consumer engagement and empowerment

- A1.243 Across the board, stakeholders who commented on consumer empowerment and the ability of consumers to engage with the market acknowledged its importance.
- A1.244 However, many communications providers argued that there was no need for further intervention as consumers were already sufficiently empowered. They argued that competition was the key enabler of consumer empowerment and that remedies to promote competition would be more effective in getting consumers to engage with communications markets.
- A1.245 In particular, Virgin Media argued that Ofcom's consumer policy lacked a robust framework in contrast to the successful competition policy framework and that it was hard for Ofcom to demonstrate conclusively that its interventions had delivered

²⁷³ BT, [main response](#), pp. 101-102.

any net benefit for consumers.²⁷⁴ A number of other communications providers, including Vodafone, warned further intervention in the name of consumer empowerment could add to the regulatory burden on communications providers and threaten consumer engagement.²⁷⁵

- A1.246 TalkTalk was one of the few communications providers that advocated remedies to increase consumer engagement. It argued that a priority issue was the low levels of switching within the telecoms industry and intervention was needed to correct barriers to switching.²⁷⁶ A number of other communications providers agreed with the concern that switching rates were low.
- A1.247 Consumer groups and uSwitch felt that further steps needed to be taken to improve consumer empowerment. They argued that it was important that Ofcom continued to focus on improving consumer empowerment in the face of a rapidly changing industry.²⁷⁷
- A1.248 *We agree that effective competition is vital to deliver benefits for consumers. However, even where there is competition between firms, there can be consumer issues that require regulatory intervention to ensure that consumers can play their role in the effective operation of markets. In some cases specific groups of consumers may require additional protection. We set out our proposals and actions to empower and protect consumers in section 7.*
- A1.249 A major issue raised by stakeholders was the rising complexity related to the general trend of increases in the bundling of services. These stakeholders referred to a number of specific issues such as: differing contractual terms for individual elements; pricing confusion; switching problems; and, difficulties in making comparisons, as particular concerns.
- A1.250 *The bundling of services offers important benefits for consumers but we agree that the issue of increasing complexity of services is one that poses challenges to consumers' ability to engage effectively. We set out our approach to reducing pricing complexity and ensuring consumers are easily able to switch provider in section 7.*

Early indicators of consumer issues

- A1.251 A number of communications providers noted that Ofcom relied on consumer complaint figures and switching statistics as indicators of demand-side issues. They argued that Ofcom should consider a wider range of indicators to gain a clearer picture of where consumers are worst off. Vodafone went further and argued that complaints data was an entirely reactive indicator of consumer harm already incurred.²⁷⁸
- A1.252 *We agree that it is important to understand how competition is operating at the retail level in communications markets not just in high-level terms but also how it affects different groups of consumers. We set out specific proposals for tracking prices more closely and monitoring the advertising of broadband prices in section 7.*

²⁷⁴ [Virgin Media](#), pp. 36-37.

²⁷⁵ [Vodafone](#), p. 62.

²⁷⁶ TalkTalk, [main response](#), p. 60.

²⁷⁷ [uSwitch](#), pp. 10-17.

²⁷⁸ [Vodafone](#), p. 63.

Improving consumer empowerment

- A1.253 BT warned that consumers may become overburdened if Ofcom continues to mandate the provision of further information.²⁷⁹ Other communications providers also questioned Ofcom's role as an information provider, arguing that consumers were generally unaware of the information Ofcom publishes on its website. EE went further arguing that some information provided by Ofcom was unnecessary or could be better done by third parties.²⁸⁰ Three agreed with this view and added that Ofcom should limit information publications to target vulnerable groups for whom information is not readily available.²⁸¹
- A1.254 Some stakeholders, including Which?, considered using standardised information and common comparators across providers, although it noted that there may be risks involved.²⁸² By contrast, BT strongly opposed any form of restriction on the characteristics of retail products, including standardisation and argued it restricted competition by reducing the incentive to innovate.²⁸³
- A1.255 *We recognise concerns about consumers being overwhelmed by the amount of information available to them. We set out how we will put consumers in a position to make better choices by ensuring the provision of clear and accessible information in section 7.*
- A1.256 *As we set out in the Discussion Document, a key aspect of providing information to help consumers make sense of the choices available to them is that such information needs to be both timely and meaningful. We agree that the comparability of different products is an important aspect of helping consumers understand the choices available to them. Further, in response to BT's concern, we do not consider that the provision of information in a standard format requires communications providers to standardise the underlying products or to limit the range of products available to consumers.*
- A1.257 Most communications providers and consumer groups urged Ofcom to extend Gaining Provider Led (GPL) switching services across the industry. BT noted that consistency across cable and other networks, and pay TV was more important than the specific switching process.²⁸⁴ EE agreed that consistency was important for products sold together in a bundle but because this did not apply to mobile services, there was no need to introduce a GPL switching process.²⁸⁵
- A1.258 Many stakeholders were also concerned with the switching process for bundled services due to differing contractual terms for each individual element. BT also argued that number porting was a key enabler for consumers' and businesses' ability and willingness to switch provider.²⁸⁶

²⁷⁹ BT, [main response](#), p. 117.

²⁸⁰ EE, pp. 23-24.

²⁸¹ Three, pp. 64-65.

²⁸² Which?, p. 5.

²⁸³ BT, [main response](#), p. 119.

²⁸⁴ BT, [main response](#), p. 120.

²⁸⁵ EE, pp. 19-20.

²⁸⁶ BT, [main response](#), p. 119.

- A1.259 A number of other stakeholders suggested ‘nudge’ based remedies, in particular introducing end-of-contract notifications to encourage consumers to move onto better contracts.
- A1.260 *Consumers must be able to act on the information available to them by being able to switch easily between providers to get a better deal. We address our proposals to make switching easier in section 7 and discuss what more can be done to support those consumers who may not respond to new or better information or easier switching.*

Price comparison websites (“PCWs”)

- A1.261 Communications providers generally did not believe that any intervention was required to provide additional information to PCWs. However, consumer groups identified a number of issues and actions that Ofcom could take to encourage greater usage of PCWs. For instance, a number argued PCWs were missing access to vital information that would improve the experience for consumers (e.g. specific availability measures, quality of service personal usage information). Which? believed the low usage of PCWs could be due to potentially poor displays of information in comparison to other sectors. It noted that PCWs did not provide an effective monthly cost measure or take into account all the features of a service.²⁸⁷
- A1.262 The FSB argued that PCWs were targeted at residential consumers and SMEs would also benefit if certain key metrics, such as upload speed and service level agreements on fault repair times, were available on PCWs.²⁸⁸
- A1.263 *In section 7, we set out the work that Ofcom is taking forward in relation to PCWs.*

Pricing information

- A1.264 A number of stakeholders were concerned that consumers were being misled by advertising. In particular, stakeholders noted that headline rates advertised often vastly differ from the actual cost incurred by the consumer. This concern extended to bundled services where often a single attractive feature is promoted and consumers are locked into long term contracts across multiple services.
- A1.265 *As set out in section 7, Ofcom has been working with the ASA on the way in which broadband prices are being advertised to consumers and the ASA has put forward a number of recommendations as to how prices should be advertised to consumers to avoid them being misled.*²⁸⁹

Consumer Protection

- A1.266 A number of consumer groups supported greater support and clarity for consumers when service standards were not met. Which? note that telecoms services are now seen as a utility and service failures cause significant loss and inconvenience. It argued a need for formal criteria for consumer compensation be set out, in the form of monetary payment or penalty-free contract exit.²⁹⁰

²⁸⁷ [Which?](#), p. 6.

²⁸⁸ [FSB](#), p. 15.

²⁸⁹ The recommendations on which the ASA intend to consult are set out on the [ASA website](#).

²⁹⁰ [Which?](#), p. 9.

A1.267 *We agree with the views held by consumer groups and look to ensure consumers are able to complain and claim redress when things go wrong. Our position and planned work in this regard can be found in section 5.*

Terms of reference

A1.268 Responding to the Terms of Reference, TalkTalk called for a significant improvement in basic digital skills. It also argued for good transparency of offers and easy migrations to allow consumers to select accurately and move easily to the best package for them.²⁹¹ As well as arguing for an effective balance and integration of supply and demand side policies, the CFC also argued that Ofcom needed to consider how to strengthen the representation of consumer views in debates on regulatory issues.²⁹²

A1.269 *Whilst we recognise the importance of this range of issues, a number of them were outside the scope of this strategic review.*

A1.270 Responding to the Terms of Reference, Citizens Advice recognized that the rapid development of communications technologies could benefit consumers and also raised issues about how best to protect consumers' interests. In particular it cited concerns about mobile service agreements and broadband services (e.g. issues around cancellation, complaints handling and redress, and the way in which broadband services were advertised). It argued that safeguarding consumer protection needed to be central to the DCR.²⁹³

A1.271 *We believe protecting consumers when things go wrong is an important aspect of our consumer policy approach. Our proposals in respect of consumer protection are set out in section 7.*

A1.272 Responding to the Terms of Reference, the CFC argued that the primary outcomes of the review should focus on the impact on consumers: e.g. take-up rather than coverage; exercise of choice rather than availability of choice; and, satisfaction rather than simply quality of service.²⁹⁴

A1.273 *Consumer outcomes are fundamental to this review and are considered across the main document. Beyond this review, consumer policy and protection continues to be central to our day-to-day work (see Ofcom's proposed Annual Plan).*²⁹⁵

Deregulation and simplification of our regulation

A1.274 This section summarises responses concerning opportunities for deregulation, simplification and targeted regulation. Note that responses related to the simplification and deregulation of the BT Undertakings are included with summaries related to BT's vertical integration.

²⁹¹ TalkTalk, [terms of reference response](#), p. 2.

²⁹² CFC, [terms of reference response \(2nd submission\)](#) pp. 8-9.

²⁹³ Citizens Advice, [terms of reference response](#), pp. 1-2.

²⁹⁴ CFC, [terms of reference response](#), p. 2.

²⁹⁵ See Ofcom, [Proposed Annual Plan 2016/17](#), p. 12.

Narrower focus for ex-ante regulation

Focus on upstream remedies

A1.275 Stakeholders presented a range of views on the extent to which upstream remedies might enable deregulation of downstream markets. For example, BT opposed regulating multiple points of the value chain and criticised the introduction of dark fibre as a remedy in the leased lines market while leaving existing active remedies.²⁹⁶ Colt, among others, saw potential for downstream deregulation in the event that suitable passive products become available, though active remedies would remain relevant for areas where use of passives is unlikely to be economic.²⁹⁷

A1.276 *We set out our approach to these issues in section 8.*

Geographic markets

A1.277 Stakeholders, including the UKB Group, considered the potential for deregulation in some geographic areas.²⁹⁸ The Infrastructure Investors Group stated Ofcom should assume a product or geographic market is contestable until shown otherwise.²⁹⁹

A1.278 The Ofcom Advisory Committee for Scotland thought we should take a more granular approach to market definition and that this might allow for local deregulation and interventions that are suited to local market conditions.³⁰⁰ CityFibre suggested that we take a more granular approach to product and geographic market definition (recognising varying competition for different products/geographies) to avoid overregulation.³⁰¹

A1.279 BT called for deregulation of business connectivity markets in city centres around the UK, saying that these areas are competitive. It noted that we have found an area of effective competition in the London area in the BCMR, and that the size of competitive areas may increase in future.³⁰² It argued that Ofcom has failed to take into account the impact of end-to-end competition in areas covered by Virgin Media's cable network. It called on Ofcom to consider the impact of Virgin Media's current and planned network deployment in the wholesale local access markets review and stated that deregulation of wholesale broadband in market A could support wider availability of services.³⁰³

A1.280 Some stakeholders were concerned that deregulation by geography might mean that communications providers withdraw services from less profitable areas or might hinder innovation.³⁰⁴ Another response suggested that deregulation at a UK-wide

²⁹⁶ BT, [main response](#), p. 74.

²⁹⁷ [Colt](#), pp. 17-18.

²⁹⁸ [UKB Group](#), p. 12.

²⁹⁹ [Infrastructure Investment Group](#), p. 15.

³⁰⁰ [Ofcom Advisory Committee for Scotland](#), p. 2.

³⁰¹ CityFibre, [main response](#), p. 40.

³⁰² BT, [main response](#), p. 146.

³⁰³ BT [main response](#), p. 146.

³⁰⁴ [Team East Sussex](#) p. 5; [Ofcom Advisory Committee for England](#), p. 5.

level might necessitate regulation of local markets given their specific circumstances.³⁰⁵

A1.281 *We discuss this further in section 8, noting that the market review process is likely to be the way that deregulation in this area is progressed.*

Regulation in Hull

A1.282 KCOM called for the removal of specific wholesale access requirements because the size of the Hull market and differences in the wholesale product set compared to BT's make national communications providers unlikely to use these products.³⁰⁶ KCOM also requested removal of their regulatory reporting requirements on proportionality grounds and because they were not used to set charge controls.³⁰⁷

A1.283 *As we note in section 8, the market review process is likely to be the primary vehicle through which ex-ante competition regulation will be reviewed.*

Information provision

A1.284 Others argued for a reduction in information provision to the regulator. Microsoft argued that Ofcom should review the administrative burdens that communications providers face; EE and ISPA cautioned against the imposition of undue information burdens on communications providers related to Ofcom's consumer information work.³⁰⁸

A1.285 *We will continue to consider the reporting and information provision requirements of all stakeholders and keep these under review to ensure that they give us the information we need to regulate in the interests of citizens and consumers, in a proportionate way.*

Network evolution

Withdrawal of legacy services

A1.286 BT argued for the withdrawal of 'legacy' services including wholesale ISDN2 and ISDN 30 and all traditional interface ('TI') leased lines products because this would promote take-up of more modern and efficient substitutes. BT also called for the deregulation of Sub-Loop Unbundling, and Local Loop Unbundling and Wholesale Line Rental (the latter two as the PSTN is retired).³⁰⁹

A1.287 Some argued that withdrawal of legacy services was not an opportunity for deregulation. For example, SSE said that their experience concerning very low bandwidth leased lines made them think that providers with SMP should be subject to greater scrutiny as products are withdrawn in order that users are protected.³¹⁰

A1.288 Vodafone, UKB Group and KCOM noted the issue of access to legacy services following any shift from copper to FTTH and the switch off of the PSTN, including

³⁰⁵ [Scottish Futures Trust](#), pp. 31-32.

³⁰⁶ [KCOM](#), pp. 17-18.

³⁰⁷ [KCOM](#), p. 18.

³⁰⁸ [Microsoft](#), p. 7; EE, [main response](#) p. 23; [ISPA](#), p. 4.

³⁰⁹ BT, [main response](#) pp. 146-147 151-152.

³¹⁰ [SSE](#), p. 24.

access to emergency services during power outages, CLI and support for telemetry and other devices.³¹¹ Vodafone argued that these issues form barriers to the transition from copper to fibre and Ofcom should address them in its review.³¹² KCOM urged Ofcom to clearly set out its position on legacy services regulation, and to allow service providers the flexibility to move customers to new, more efficient technologies which will improve service for most consumers.³¹³

A1.289 *We discuss these issues in section 8.*

PSTN switch-off

A1.290 Stakeholders addressed the likelihood of switch-off of the PSTN during the period of this review. Some, such as KCOM, argued that legacy service switch-off and migration should be predominantly market-led, with TalkTalk identifying a possible back-stop role for Ofcom in PSTN switch-off.³¹⁴ BSG suggested that Ofcom could work with Government and industry to set a date for PSTN-switch-off and set up an organisation to support consumers through this.³¹⁵

A1.291 Citizens Advice, SSE and the National Farmers Union among others argued that appropriate transitional arrangements should be put in place to protect consumers prior to PSTN switch-off.³¹⁶ COSLA argued that consumers should continue to be able to access critical services without being forced to pay higher prices following PSTN switch-off and Wealden District Council noted the current use of the PSTN by elderly consumers with lifeline services in its area.³¹⁷

A1.292 *We discuss these issues in section 8.*

Battery back-up

A1.293 Some communications providers, including Vodafone and KCOM, argued that inappropriate regulation requiring features such as battery back-up for access to emergency services or accessibility services on new fibre based access networks, could hinder deployment of these networks given that it may be difficult and costly to replicate the existing PSTN approach to fibre networks.³¹⁸

A1.294 On the other hand, Argyll and Bute Council felt that a one hour battery back-up requirement is insufficient for remote areas that suffer prolonged power outages on a regular basis.³¹⁹ Chaltel Limited argued that fibre optic networks should offer similar levels of resilience as that of current copper networks and proposed an approach to power some types of fixed-line telephone over point-to-point fibre access networks.³²⁰

A1.295 *We set out our position on this topic in section 8.*

³¹¹ Vodafone, [main response](#), p. 45; [UKB Group](#), p. 29; [KCOM](#), pp. 7-8.

³¹² [Vodafone](#), p. 45.

³¹³ [KCOM](#), pp. 7-8.

³¹⁴ [KCOM](#) p. 7; TalkTalk, [main response](#), p. 66.

³¹⁵ [BSG](#) p. 9.

³¹⁶ [Citizens Advice](#) p. 9; [SSE](#), p. 24; [NFU](#), p. 6.

³¹⁷ [COSLA](#), pp. 6-7; [Wealden District Council](#) p. 6.

³¹⁸ Vodafone, [main response](#) p. 45; [KCOM](#), pp. 7-8.

³¹⁹ [Argyll and Bute Council](#), p. 5.

³²⁰ [Chaltel Ltd.](#), pp. 6-8.

Deregulation of voice services

- A1.296 Stakeholders discussed the potential deregulation of voice services. BT called for deregulation of wholesale call origination (and termination too in the longer term) given that voice over broadband and mobile act as substitutes.³²¹ BT argued that in the long term the move to all-IP networks could enable the deregulation of voice termination given the lower cost of termination. BT suggested that a General Condition might provide necessary protections concerning termination.³²²
- A1.297 Others, including the BSG, BCS, UKB Group and TalkTalk, noted the potential for deregulation of voice services.³²³ ISPA said that OTT services may allow for the deregulation of older established services when these compete with each other.³²⁴ uSwitch noted that OTT services may permit the deregulation of voice origination and even termination in the event that newer substitute services constrain the prices of legacy services.³²⁵ Ofcom's Advisory Committee for England argued that OTT services may allow more traditional services to be deregulated once OTT services have become more mature.³²⁶
- A1.298 *We discuss these issues in section 8.*

Other areas for deregulation, targeted regulation and simplification

General Conditions

- A1.299 Respondents including Three (citing GC 14 as an example) and Vodafone called for a review of the General Conditions (GCs) to remove unnecessary or duplicative provisions.³²⁷ EE proposed changes to GCs and indicated where it felt they had been applied inappropriately.³²⁸ BT suggested that Ofcom review GC3 and GC4 to reflect changes in relationships between networks and services and the rise of newer services.³²⁹ BT also called for greater clarity in the GCs and questioned the need for large enterprise customers to be included in the provision of GC 11.³³⁰ Verizon questioned whether consumer protection rules for enterprises should be the same as for residential users.³³¹
- A1.300 Others supporting greater clarity in the GCs included Virgin Media, as well as ITSPA and Simwood (both seeking clarity on GC 18) and TalkTalk (which in particular sought clarity on GC3 and GC15).³³² Facebook suggested that it may be possible to use generic consumer protection law instead of GCs in some cases.³³³

³²¹ BT, [main response](#) pp. 146-147.

³²² BT, [main response](#), p. 147.

³²³ [BSG](#), p. 9; [BCS](#), p. 8; [UKB Group](#), p. 30; TalkTalk [Response to Terms of Reference](#), p. 25.

³²⁴ [ISPA](#), p. 2.

³²⁵ [uSwitch](#), p. 19.

³²⁶ [Ofcom Advisory Committee for England](#), pp. 5-6.

³²⁷ [Three](#), p. 55; [Vodafone](#), p. 62.

³²⁸ [EE](#), pp. 25-26 and 30-32.

³²⁹ BT, [main response](#), pp. 61-62, 149-150.

³³⁰ BT, [main response](#), p. 150.

³³¹ [Verizon](#), p. 11.

³³² [Virgin Media](#), p. 50; [ITSPA](#), p. 2 and [ITSPA Annex](#), pp. 1-5; [Simwood](#), pp. 1-4; TalkTalk, [main response](#), p. 66.

³³³ [Facebook](#), p. 6.

A1.301 *We set out details of our review of the General Conditions in section 8.*

USO deregulation

A1.302 BT argued for the deregulation of certain aspects of the USO. BT requested deregulation of aspects of its current USO obligations, for example ending the requirement to provide public call boxes, and the ending of uniform national tariff and ban on enforced bundling of USO products. It argued for broadening the social tariff requirement to include other large communications providers beyond BT.³³⁴ TalkTalk's response to our Terms of Reference suggested it may be appropriate to fund the USO differently (for example via a central fund) following a separation of Openreach from BT.³³⁵

A1.303 *We believe that the USO remains important in ensuring all consumers are able to access essential services. We also note the existing procedures that are in place which allow BT to remove public call boxes in certain cases. While we do not address these issues concerning the current USO in this review we will continue to keep the USO under review in the light of market and technological changes.*

Disputes resolution

A1.304 BT's response outlined several areas where it believes our dispute resolution process might be improved and requested an opportunity to discuss its proposals.³³⁶

A1.305 *We note BT's comments relating to this important area. We reviewed our dispute resolution process in 2011 and issued new guidance. Whilst we do not intend to carry out a further review as part of the implementation of this review, we continue to keep our dispute resolution processes and associated guidance under consideration and we invite BT to submit more detail on what it is proposing.*

Convergence: TV content and services delivered over the internet

A1.306 A number of stakeholders commented on pay TV in the context of retail bundling. However, none of them raised any issues in addition to those that we had identified in the Discussion Document. We summarise below the key points made.

A1.307 On the consumer side, EE said that where services are commonly sold as part of a bundle, having different switching processes for each service has the potential to make switching difficult for consumers and ultimately distort competition in the market.³³⁷

A1.308 TalkTalk argued that it is important to ensure consumers are able to easily switch between quad-play providers; and that they are not paying for products they do not want because they are not regular switchers. It said the market is increasingly promotion-led, with the result that large groups of customers, who do not switch, are subsidising promotional offers for the small minority of the market which does. It

³³⁴ BT, [main response](#), p. 150.

³³⁵ TalkTalk, [Response to Terms of Reference](#), p. 25.

³³⁶ BT, [main response](#), pp.150-151.

³³⁷ [EE](#), p. 19.

said it supports Ofcom's approach to empower consumers to overcome these issues.³³⁸

- A1.309 It also said that we should extend gaining-provider led switching across bundles and encourage more switching making offers easier to understand and compare.³³⁹
- A1.310 BT considered that asymmetric regulation in the rules applied to consumer switching – which favour Sky and Virgin Media over other, smaller scale providers of bundled communications services such as BT and TalkTalk – reinforces the competition issues it had identified and said that it was particularly problematic in a market where switching is exceptionally low.³⁴⁰
- A1.311 Telefonica UK said that the impact of bundling on switching is open to abuse and some minimum protections may be appropriate.³⁴¹
- A1.312 *We consider switching issues in section 7.*
- A1.313 Turning to supply side issues, Sky told us that possible concerns from bundling content and telecoms services are unfounded, and that there is no evidence to suggest there are any enduring issues associated with distribution of content which might give rise to bottleneck concerns. It also said that our current regulatory toolkit is able to deal effectively with any competition concerns that arise.³⁴²
- A1.314 In contrast, BT argued that Sky's inherent market advantages, derived from its high and persistent profitability and relative scale in pay TV, have endured for more than 20 years as a result of a lack of effective competition. It said there is no efficient wholesale market in pay TV, as Sky limits the distribution of its channels, while its unassailable advantages enable it to command the most favourable wholesale terms for premium content. It said this has been a problem for a long time, and is spilling into bundled services.³⁴³
- A1.315 It said we should therefore exercise our powers to apply competition law, and impose regulation under the Communications Act 2003 to regulate Sky's pay TV offering. However, it argued that looking ahead the regulatory regime for pay TV should be updated to align it with the market review process that applies to telecommunications services, which would allow the same regulatory approach to be taken in all converging sectors.³⁴⁴
- A1.316 Virgin Media and Vodafone broadly agreed that sport, especially live football drives take-up of standalone and bundled pay TV services, and that Sky and BT therefore have incentives to limit distribution of their football content. They said that this should be addressed through wholesale must-offer arrangements.³⁴⁵
- A1.317 Vodafone added that Ofcom might also consider limiting the ability of premium content holders to offer bundled retailed services or structuring content rights

³³⁸ TalkTalk, [main response](#), pp. 3-4.

³³⁹ TalkTalk, [main response](#), p. 5.

³⁴⁰ BT, [main response](#), p. 76.

³⁴¹ [Telefonica UK](#), p. 12.

³⁴² [Sky](#), pp. 34-37.

³⁴³ BT, [main response](#), p. 32.

³⁴⁴ BT, [main response](#), p. 77.

³⁴⁵ [Virgin Media](#), pp. 44-45; Vodafone, [main response](#), p. 61.

auctions to reduce the impact of exclusive content,³⁴⁶ while Virgin Media said we should address the manner in which the rights are sold in order to develop appropriate and effective remedies that address both upstream and downstream issues.³⁴⁷

A1.318 Telefonica UK said that bundling exposes traditionally separated value chains to bottlenecks in adjacent ones, impacting competition and incentives to invest, and that concentration of content rights ownership is a concern in the UK.³⁴⁸

A1.319 *We discuss bundling TV content with telecoms services in section 9.*

Other submissions

A1.320 Some respondents raised issues not directly related to the sections set out above. We have grouped these submissions by topic and summarised them below.

OTT services

A1.321 Operators including BT, TalkTalk, Vodafone, Telefonica UK, EE, and Three, submitted that a single framework should apply to both communications providers and OTT providers equally so as to create a level playing field and protect consumers.³⁴⁹ Ofcom should achieve this either by easing sector-specific consumer protection rules applicable to communications providers or by extending sector-specific regulation to OTT providers.³⁵⁰ Some stakeholders suggested that OTT services might fulfil some of these obligations differently, for example using GPS or network meta-data.³⁵¹

A1.322 The Communications and Connectivity Coalition suggested that terms such as “OTT” and “level playing field” were unhelpful, and that continuing the distinction between Electronic Communications Services (ECS) and Information Society Services (ISS) would continue to promote innovation in the latter.³⁵²

A1.323 Telefonica UK urged Ofcom to examine the possibility of new bottlenecks, lack of interoperability, and the ease of switching in relation to OTT platforms and raised issues around jurisdiction and enforcement.³⁵³ TalkTalk submitted that, as a minimum, OTT providers should provide sufficient transparency to ensure that consumers are aware of differences with traditional services and can make informed choices.³⁵⁴

A1.324 A number of respondents, including Facebook and Microsoft, highlighted the importance of distinguishing between electronic communications services and network-independent OTT service. This includes ensuring that the regulatory framework does not impede the pace and scope of creativity and investment in

³⁴⁶ Vodafone, [main response](#), p. 9.

³⁴⁷ [Virgin Media](#), p. 45.

³⁴⁸ [Telefonica UK](#), p. 12.

³⁴⁹ [Three](#), pp. 66-67; [Telefonica UK](#), pp. 16-17; TalkTalk, [main response](#), pp. 67-68; BT, [main response](#), pp. 37, 148-149; EE, [main response](#), pp. 13-14; Vodafone, [main response](#), p. 12.

³⁵⁰ Vodafone, [main response](#), p. 12.

³⁵¹ [Virgo Mr P](#) p. 8-9; BT, [main response](#), p. 62.

³⁵² [Communications and Connectivity Coalition](#), pp. 1-3.

³⁵³ [Telefonica UK](#), pp. 16-17.

³⁵⁴ TalkTalk, [main response](#), p. 67.

OTT.³⁵⁵ In their view, OTT services compete in a vibrant market and consumers understand that many of these services are still under development and offered on a best-efforts basis.³⁵⁶ Microsoft emphasized the difficulty of defining an OTT communications service and of enforcing country-specific obligations.³⁵⁷

A1.325 The Secretary of State for Culture Media and Sport set out his initial view that a blanket approach to OTT regulation should be avoided.³⁵⁸

A1.326 *We discuss our approach to consumer protection and OTT services in section 9.*

A1.327 *The European Commission is currently considering the scope of telecoms regulation, as part of the review of the Framework; in our December 2015 response to the European Commission's consultation on the Framework we set out our view that it was important for regulators to retain flexibility in the regulation of OTT services and that it would be disproportionate to automatically extend the scope of the Framework to all OTT services.*

Net Neutrality

A1.328 The BBC urged Ofcom to ensure that the UK leads in the support of balanced net neutrality principles. It warned that ISPs may use their gatekeeper control to charge fees for distribution across their networks, diverting money from UK content production.³⁵⁹ ITSPA said that ISPs may be interfering with OTT applications and welcomed an effective reporting mechanism for identifying and penalising incidents of blocking or degrading traffic by ISPs.³⁶⁰ TalkTalk submitted that rules on transparency and treatment of OTT services, combined with strong competition between ISPs, suffice to meet consumers' interests.³⁶¹ Verizon warned that further regulation of net neutrality would constrain innovation.³⁶²

A1.329 *In November 2015 the European Parliament approved Regulation 2015/2120 which imposes Net Neutrality obligations on ISPs. Ofcom will be the enforcement body in the UK for these obligations, which come into force in April 2016. Ofcom is currently working with other telecoms regulators at BEREC³⁶³ to draft guidelines to the Regulation.*

The EU framework

A1.330 The UKB Group submitted that the current EU framework, which is centred on the examination of narrow product markets, will be unfit for purpose as services converge around consumer demand for data. Regulation should focus on access to the underlying networks which serve multiple retail markets.³⁶⁴ Citi Research, responding to the Terms of Reference, warned that the focus on separate market

³⁵⁵ [Facebook](#), pp. 2-6.

³⁵⁶ [Facebook](#), p. 6; [Microsoft](#), pp. 2 and 4-5.

³⁵⁷ [Microsoft](#), p. 6.

³⁵⁸ [Secretary of State for Culture, Media and Sport](#), p. 3.

³⁵⁹ [BBC](#), pp. 11-13.

³⁶⁰ [ITSPA](#), pp. 3-4.

³⁶¹ TalkTalk, [main response](#), p. 67.

³⁶² [Verizon](#), p. 10.

³⁶³ BEREC: Body of European Regulators for Electronic Communications

³⁶⁴ [UKB Group](#), pp. 2 and 19.

reviews can obscure the bigger picture, particularly when two or more markets share a common underlying infrastructure.³⁶⁵

- A1.331 TalkTalk, KCOM and Citi Research (the latter responding to the Terms of Reference) submitted that Ofcom's market review periods should be extended, for instance to four or five years, to free up Ofcom's resources.³⁶⁶
- A1.332 *Our response to the Commission on the Framework Review sets out our views on some areas where we believe there are opportunities to improve the Framework and ensure it remains fit-for-purpose in future.*³⁶⁷
- A1.333 *The three-year market review period is a requirement of the current European Framework. In our response to the Commission's consultation on the review of the Framework we recommended that national regulatory authorities should have greater flexibility in the timing of market reviews.*³⁶⁸

Ofcom's approach to regulation

Over-arching objectives

- A1.334 Three submitted that Ofcom's approach to markets has been "piecemeal" at times. Clarifying overarching objectives and setting longer plans with clear timelines and delivery objectives would allow operators to plan ahead.³⁶⁹
- A1.335 *A key motivation for this strategic review was to provide an opportunity to examine competition, investment, innovation and availability in the broadband, mobile and landline markets as a whole. The conclusions of this review therefore provide a strategic, long-term foundation for our programme of regular, three-yearly reviews of individual telecoms markets.*

Level of regulation

- A1.336 Three submitted that Ofcom has, at times, adopted a reactive and overly interventionist approach to the treatment of consumer issues and been too focussed on engineering specific market outcomes, rather than addressing the underlying market flaws.³⁷⁰ EE submitted that Ofcom routinely intervenes in a range of detailed operational issues, particularly through the increasingly intrusive application of the General Conditions, many of which do not require intervention and hinder effective competition.³⁷¹

³⁶⁵ Citi Research, [response to the Terms of Reference](#), p.11.

³⁶⁶ TalkTalk, [main response](#), p. 33; Citi Research, [response to the Terms of Reference](#), p. 11; [KCOM](#), p. 6.

³⁶⁷ See Ofcom, [Response to Commission Public Consultation on the Review of the Regulatory Framework, December 2015](#)

³⁶⁸ See Ofcom, [Response to the Review of the European Framework, December 2015](#).

³⁶⁹ [Three](#), pp. 15-16.

³⁷⁰ [Three](#), pp. 14 and 52.

³⁷¹ EE, [main response](#), pp. 4-5.

A1.337 TalkTalk further urged Ofcom to ensure that its methods of enforcement create strong compliance incentives for BT, including penalties and recouping overcharging.³⁷²

A1.338 *We are required to regulate in the interests of citizens and consumers, while ensuring that we do not impose unnecessary burdens on our stakeholders. Our regulatory principles guide us towards operating with a bias against intervention, but with a willingness to intervene firmly, promptly and effectively where required.*

Transparency and scrutiny

A1.339 TalkTalk proposed that Ofcom could share emerging thinking with stakeholders, for instance through 'working papers' such as those used by the CMA, to improve its stakeholder engagement.³⁷³ Three further submitted that there is little transparency when it comes to how Ofcom spends its funds and, as a result, insufficient scrutiny of the costs of Ofcom's activities.³⁷⁴

A1.340 *Where relevant and appropriate we consult on our proposals and undertake impact assessments on all significant proposals. We also endeavour to discuss our proposals informally with stakeholders, wherever possible.*

A1.341 *Ofcom consults on its forward-looking programme of work in the Draft Annual Plan we publish each year, which includes our budget for the coming year. We publish an Annual Report and Accounts each year, a copy of which is laid before Parliament and the Scottish Parliament. We also publish our Tariff Tables on our website which set out how our work will be funded. Ofcom is accountable to Parliament and is subject to scrutiny from the Culture, Media and Sport Select Committee and the Public Accounts Committee.*

Other regulators

A1.342 Some stakeholders, including ITSPA, saw an opportunity for greater clarity on the respective roles of regulators and other public bodies and how they work together in converged markets which are increasingly important to people's lives.³⁷⁵

A1.343 *Ofcom engages with other regulators formally and informally, notably through the UKRN and plays an active role in its programme of work.*

The process for appealing Ofcom's decisions

A1.344 A number of respondents, including TalkTalk and Three, submitted that under the current regime for appealing Ofcom's decisions, too many decisions are challenged, resulting in extensive, expensive litigation and reducing certainty for market participants.³⁷⁶ Respondents urged Ofcom and Government to modify the standard of review, the bodies with jurisdiction to hear appeals, and the rules on new evidence and length of submissions.³⁷⁷

³⁷² TalkTalk, [main response](#), pp. 34-35.

³⁷³ TalkTalk, [main response](#), p. 34.

³⁷⁴ [Three](#), p. 17.

³⁷⁵ [ITSPA](#), p. 4.

³⁷⁶ TalkTalk, [main response](#), p. 32; [Three](#), pp. 52-53.

³⁷⁷ TalkTalk, [main response](#), p. 33; [Three](#), p. 52.

A1.345 *We note that reform of the appeals regime is a matter for Government.*

Mobile competition

A1.346 Given the mergers under consideration by the competition authorities during the consultation, mobile operators did not make detailed points about the degree of competition. Vodafone indicated that consolidation raised potential issues requiring attention including leverage of market power from fixed to mobile via mobile backhaul, differences in spectrum holdings and potential issues arising from any restriction on network sharing from a merged Three/O2.³⁷⁸

A1.347 A number of respondents argued that we should respond to growing mobile consolidation by changing the way in which the mobile sector is regulated. To date, we have not imposed access regulation on mobile operators, requiring them to offer the use of their networks to third parties, such as MVNOs, on regulated terms.

A1.348 However, respondents including SSE and KCOM argued that the need to encourage service competition in mobile meant that we should reassess this stance. They suggested that MVNOs were finding it more difficult to negotiate commercial agreements with mobile operators and that, as a result, we should impose regulation to require the provision of wholesale access to mobile networks.³⁷⁹

A1.349 TalkTalk argued that outcomes in the UK mobile market are poor, citing weak investment, excessive profitability and poor working of the retail and wholesale markets. They indicated that steps should be taken to improve the position of MVNOs.³⁸⁰

A1.350 *We will continue to monitor the mobile market to ensure that it remains competitive. Where appropriate, we would consider whether any extension of regulation is necessary, under the terms of the European regulatory framework. While consolidation can have benefits such as improving economies of scale, Ofcom's experience is that competition rather than consolidation drives investment and delivers low prices. We want the UK to continue benefiting from four national wholesale mobile providers: this has delivered good results for consumers and sustainable returns for companies.*

Mobile returns

A1.351 In the Discussion Document we noted some stakeholders' concerns that returns in the mobile sector are below operators' cost of capital. In response we stated that:

- The effect of regulation on operators' anticipated returns on efficient investment, and the implications for potential future investment, are a key consideration for us;
- UK mobile network operators' (MNOs) EBITDA margins appeared to be low in comparison with those in other international markets;

³⁷⁸ [Vodafone](#), p. 19-20.

³⁷⁹ [SSE](#), p. 9; [KCOM](#), p. 11.

³⁸⁰ TalkTalk, [main response](#), pp. 13-14.

- However the UK mobile sector appears to be earning returns above its cost of capital within the current market structure and regulatory environment; and
- In some cases operators are earning returns significantly higher than their cost of capital (c9%).³⁸¹

A1.352 We noted that estimates of returns on capital employed (ROCE) in the mobile sector can be sensitive to the operator's accounting treatment of assets with a current value substantially lower than their historic value, such as spectrum licences. Estimates can also be sensitive to the treatment of intangible assets created at the time of a merger, such as goodwill, rather than through historic capital investment in the business. Therefore we argued that it is appropriate to calculate forward-looking returns using estimates of future rather than historic spectrum costs and to exclude the value of certain intangible assets, such as goodwill, where appropriate.

A1.353 We published our estimate of EE's forward-looking ROCE using its published accounts. Here we excluded certain intangible assets (goodwill and customer relationships) that were not likely to have an accounting value corresponding to capital invested in the business. We also adjusted the value of 3G spectrum licence assets to match their estimated current value. On this basis we had estimated that EE's adjusted forward-looking ROCE in the calendar years 2012 and 2013 was c27-28%.

A1.354 We stated that we were not aware of any observable factors that would mean that other operators' adjusted ROCE levels would be so much lower than that of EE that their returns would not also be significantly above their cost of capital. We considered that, in general, the sector appears to be earning returns above its cost of capital and in some cases MNOs are earning returns significantly higher than the cost of capital.³⁸²

A1.355 In response to the Discussion Document, EE submitted a report by Economic Insight challenging our analysis.³⁸³ It argued that our methodology for estimating EE's forward-looking ROCE does not reflect commercial realities. It stated that:

- The value of EE's goodwill and customer relationships is unlikely to be zero. These values reflect, it argued, actual cash flows that a new entrant would have to establish. Three also considered that Ofcom should not exclude EE's intangible assets to estimate ROCE;³⁸⁴
- Our assessment of EE's 3G spectrum's value is too low, as EE will continue to use the spectrum in future. It argued that the industry's failure to make the returns expected of the spectrum in 2000 accounts for its low current value; and

³⁸¹ We also noted that New Street Research's analysis suggests that EU mobile sector ROCE exceeds the industry's cost of capital (but halved from c20% in 2010 to c10% in 2015). See [Discussion Document](#), p. 34.

³⁸² [Discussion Document](#), p. 34-36.

³⁸³ [EE](#), pp. 7-11; EE, [Annex Economic Insight Report](#).

³⁸⁴ [Three](#), pp. 12-13.

- Investors will expect that operators need to sustain historic levels of capital employed (i.e. to take into account historic prices paid for spectrum) in order to sustain returns.³⁸⁵
- A1.356 Three considered that we had been inconsistent in how we valued EE's assets when calculating its ROCE and that we should include the value of EE's intangible assets.³⁸⁶
- A1.357 *As set out in section 4, we continue to believe that the adjustments we have made to estimate EE's forward-looking returns are appropriate.*
- A1.358 *Economic Insight suggests that goodwill and customer relationships should be included in capital employed at the value of any cash flows they generate. We consider that revaluing assets to the value of the cash flow they generate, regardless of actual historic costs, means that, at steady state, ROCE would equal the cost of capital. Doing so would be circular, and would not provide a useful indicator of future profitability. However in section 4 we note that Enders Analysis has capitalised subscriber acquisition costs (SACs), which may reduce the estimate of ROCE to some extent (on a correspondingly larger capital base) where ROCE is above the cost of capital.*
- A1.359 *We estimated EE's ROCE using reported actual costs, except in relation to 3G spectrum. Here we used the current value of spectrum assets (instead of values closer to their historic value) because we do not consider that 3G auction prices paid in 2000 provide a useful indication of prices that would be paid for spectrum today. Indeed, no MNOs have suggested that the historic price paid for 3G spectrum licences is representative of the current value of this and other spectrum.*
- A1.360 Economic Insight argued that other estimates of MNOs' ROCE are below our estimates and often below the operators' cost of capital. It argued that:
- Most ROCE estimates used by investors do not make adjustments to spectrum asset values, intangible assets and goodwill comparable to those we made in our estimate of EE's forward-looking ROCE;
 - Many / most analysts estimate that the sector's ROCE is below its cost of capital (it stated that the average of analysts' estimates of ROCE projections for the parent companies of UK MNOs in 2014-2018 is c6%); and
 - A survey of recent analyst, credit ratings agency and industry reports suggests that, in the round, investors are likely to take a more cautious outlook on investment in UK mobile networks than our estimates would suggest.³⁸⁷
- A1.361 *We would not dispute that many or most other estimates of MNOs' ROCE are below ours and below operators' cost of capital. However we consider that we have made appropriate adjustments to our forward-looking estimate, as set out above. Adjustments that other analysts have made to values in MNOs' statutory accounts are not visible to us.*

³⁸⁵ Economic Insight estimates that, without adjustments, EE's statutory accounts show that its ROCE was 1-2% in 2013. See EE, [Annex Economic Insight Report](#).

³⁸⁶ [Three](#), pp. 12-13.

³⁸⁷ EE, [Annex Economic Insight Report](#).

A1.362 Economic Insight argued that we should undertake a comprehensive review of returns and investment in the mobile sector, drawing on all of the information that investors use to make decisions. It considered that:

- Our conclusions about potential future investment in the sector rest solely on our analysis of return in 2012 and 2013 and New Street Research's analysis; and
- We should look at all MNOs' performance over a longer period, using a range of appropriate metrics used by investors and a wider range of sources.³⁸⁸

A1.363 Three also stated that we could not draw conclusions about Three's profitability from our estimate of EE's returns.³⁸⁹

A1.364 *We remain confident in our conclusions as to the apparent health of investment in the sector. Therefore we do not consider it necessary to undertake a review of returns in the mobile sector, in the light of strong evidence of continued investment in UK MNOs. However in section 4 we set out how we will continue to monitor investment and consumer outcomes in the sector.*

Oligopolies

A1.365 In the Discussion Document, we suggested that a change in the current regulatory framework could be implemented to allow competition concerns to be addressed in concentrated markets in which no single firm is dominant. In response, some industry stakeholders, such as Virgin Media, argued that the current framework was sufficient and no changes were needed, particularly as, they argued, any changes could cause regulatory uncertainty and potentially create a disincentive to investment.³⁹⁰ However, respondents such as TalkTalk indicated that they supported change and stated there may be a regulatory lacuna in situations where no single firm is dominant and yet the market is not fully competitive.³⁹¹

A1.366 *Ofcom recognises the importance of regulatory certainty to investment incentives, and that regulatory intervention should always be proportionate and justified. We also recognise that in some circumstances oligopoly markets will be competitive and will not require regulatory intervention. Nevertheless, we consider (as we set out in our response to the European Framework Review), that oligopolies are an emerging and prospectively more common market structure and we are keen to ensure that we have the right tools to intervene if competition concerns arise.*³⁹²

BT's returns in regulated markets

A1.367 In the Discussion Document we noted stakeholders' concerns about the level of BT's returns in regulated markets and set out our views on appropriate adjustments to the estimates put forward. We estimated that the gap between BT's returns and its benchmark cost of capital was around £4bn over the nine years to 2013/14.³⁹³

³⁸⁸ EE, [Annex Economic Insight Report](#).

³⁸⁹ [Three](#), pp. 12-13.

³⁹⁰ [Virgin Media](#), pp. 24-25.

³⁹¹ TalkTalk, [main response](#), pp. 53-54.

³⁹² See Ofcom, [Response to Commission Public Consultation on the Review of the Regulatory Framework, December 2015](#), p.12.

³⁹³ [Discussion Document](#), p. 41.

A1.368 BT has since published its 2014/15 RFS. In November 2015, we published our second Cost Attribution Review consultation and proposed changes which would have implications for BT's reported returns.³⁹⁴

A1.369 In response to the Discussion Document, stakeholders have submitted further estimates of BT's returns above its cost of capital.

- Vodafone submitted a further report by Frontier Economics updating its past analysis to include BT's returns in 2014/15. It estimated that, over the 10 years to 2014/15, BT's returns exceeded the benchmark cost of capital by £6.5bn.³⁹⁵
- TalkTalk estimated that BT's returns were £7bn above the cost of capital in the nine years to 2013/14 by adjusting our estimate of the gap between BT's returns and its benchmark cost of capital (£4bn). Based on the changes proposed in the Cost Attribution Review, TalkTalk estimated that BT's returns in that period were £2bn higher than reported.³⁹⁶ It also estimated that the returns were a further £1bn higher than our estimate because we had assumed that components of the cost of capital calculation, such as the risk-free rate and cost of debt, would rise back to pre-2008 levels.³⁹⁷

A1.370 *With regard to the Frontier Economics estimate, this is based on BT's RFS, with some adjustments. In the Discussion Document we set out our view that further adjustments are necessary to make estimates of BT's returns more robust.*³⁹⁸

A1.371 *TalkTalk's estimate extrapolates the impact of BT's overstatement of its costs in 2013/14 across the nine years from 2005/06. This assumes that the changes proposed in the Cost Attribution Review would have a similar impact in each year. However, the Review considered only these methodologies in place in 2013/14 and many of our methodologies have been introduced or changed since 2005.*

A1.372 *In estimating BT's benchmark cost of capital we take a long-run approach to estimating the key parameters of the risk-free rate and equity risk premium. Our estimate of the common components of the cost of equity is also consistent with or slightly lower than that used by other UK economic regulators.*

A1.373 Stakeholders commented on factors that may contribute to BT's returns.

- TalkTalk argued that we had underestimated the efficiencies that BT should be able to make when setting charge controls. It also argued that our forecasts underestimated Openreach's volumes.³⁹⁹
- Sky, TalkTalk and Vodafone argued that BT had been able to reduce its costs by diminishing service quality.⁴⁰⁰

³⁹⁴ Ofcom, [Review of BT's cost attribution methodologies: second consultation](#), November 2015.

³⁹⁵ Vodafone, [Annex 2 to DCR Response](#), p. 4. However Frontier Economics considered that its estimate could understate BT's returns, given our findings in the Cost Attribution Review.

³⁹⁶ Based on the estimated annual impact of £260m in understated costs (an estimate from our June Cost Attribution Review consultation) over 9 years.

³⁹⁷ [TalkTalk](#), pp. 68-69, Annex G.

³⁹⁸ In the Discussion Document we set out that it necessary to make further adjustments to BT's returns as reported in its RFS in order to: take account of repayments we have required BT to make following various disputes; and to exclude the effect of recent changes BT has made to how it allocates its costs.

³⁹⁹ [TalkTalk](#), p. 70.

- BT stated that the Frontier Economics estimate included returns on services that were not subject to cost-oriented charge controls. It stated that it had reduced costs during the period and that it made high returns as an upside reward.⁴⁰¹

A1.374 *As set out in the Discussion Document, BT's returns were in part due to our policy decisions. More recently, much of the gap has been due to relatively high returns in business connectivity markets. We set out the reasons for this in the July 2015 leased lines charge control consultation.⁴⁰² We will shortly be setting new prices in these markets.*

A1.375 *With regard to service quality, in section 5 we acknowledge that Openreach's significant market power poses a risk that it will diminish service quality and in future we will set out clearer guidance about the service quality that Openreach must provide.*

A1.376 Stakeholders also commented on how our policy objectives may contribute to BT making high returns.

- Sky argued that we had not considered sufficiently whether the benefits of promoting market entry or investment through our pricing decisions outweighed harm from higher prices. It argued that we should undertake more detailed cost-benefit analysis of our approach to pricing.⁴⁰³
- TalkTalk stated that we should articulate our policy reasons if we do not set charge controls on a fully allocated costs basis.⁴⁰⁴
- CityFibre argued that we should set prices that preserve incentives to invest in infrastructure (and prevent excess profit-making at the retail level). It acknowledged that this could lead to BT making substantial profits, but considered that infrastructure competition would diminish these over time.⁴⁰⁵

A1.377 *We agree that it is important for us to set out our assessment of the impact of our policy decisions, including the relevant costs and benefits. Given that, when we make decisions, the market context and the level of information available can differ significantly, we will continue to assess the design of our remedies (including charge controls) on a case by case basis.*

A1.378 CityFibre argued that we should require BT to invest "excess" profits in "improving and extending fibre infrastructure in the UK".⁴⁰⁶ Sky argued that we should require BT to fund improvements to service quality in future from its high returns.⁴⁰⁷

A1.379 *Our regulatory approach is designed to ensure there are appropriate incentives for firms to be efficient and to invest through principles such as the fair bet, as discussed in section 4.*

⁴⁰⁰ Sky, pp. 27-28; TalkTalk, p. 73; Vodafone, p. 31.

⁴⁰¹ BT, pp. 44-45.

⁴⁰² Ofcom, *Business Connectivity Market Review: Leased lines charge controls and dark fibre pricing*, July 2015.

⁴⁰³ Sky, p. 28.

⁴⁰⁴ TalkTalk, p. 74.

⁴⁰⁵ CityFibre, p. 53.

⁴⁰⁶ CityFibre, pp. 47, 53-54.

⁴⁰⁷ Sky, pp. 28-29.

A1.380 Finally, TalkTalk argued that we should make the RFS more transparent by highlighting returns on products that are subject to “light or no price regulation”. It stated that any return over or under the benchmark cost of capital should be shown clearly in the RFS, with commentary on the reasons for it and on action we will take.⁴⁰⁸ Sky argued that we should fine BT for any manipulation of the RFS.⁴⁰⁹

A1.381 *We have taken steps to improve BT’s regulatory reporting. Other changes to the way BT’s RFS are prepared and presented, introduced in 2015, should make BT’s regulated returns more transparent. We will continue to monitor BT’s compliance with these reporting obligations and take enforcement action where appropriate.*

Information security

A1.382 Respondents highlighted the importance of data security, particularly given low levels of consumer understanding of cyber-crime.⁴¹⁰ The Communications Consumer Panel and ACOD called on Ofcom to take an active role in ensuring that consumers are given the tools to understand and control their data and to ensure that their data is adequately protected.⁴¹¹

A1.383 *We note that operators of publicly available networks have duties concerning network security, and we enforce these. The Information Commissioner’s Office is the primary regulator for information security and data protection. We set out our approach to working with ICO and other stakeholders to address issues concerning data protection, security and privacy in the Statement⁴¹² we published in 2015.*

Nuisance Calls

A1.384 Mediahawk submitted that the current processes for identifying, reporting, blocking, and preventing nuisance calls in the UK are too slow and ineffective to address the growing problem.⁴¹³ Responding to the Terms of Reference, Citizens Advice raised concerns about silent and nuisance calls.⁴¹⁴ An individual respondent urged that overseas marketing calls and auto-dialling systems should be banned.⁴¹⁵

A1.385 *Ofcom recognises that nuisance calls are a real concern and source of harm for consumers. We will continue to prioritise our work to address nuisance calls, as set out in our Proposed Annual Plan 2016/17 and our joint action plan with the Information Commissioner’s Office.⁴¹⁶ This includes cooperating with industry to introduce technical measures to block and filter nuisance calls.⁴¹⁷*

⁴⁰⁸ [TalkTalk](#), p. 75.

⁴⁰⁹ [Sky](#), p. 29.

⁴¹⁰ [FCS](#), p. 19; [Name Withheld 2](#), pp. 3 and 7.

⁴¹¹ [Communications Consumer Panel and ACOD](#), pp. 19-20.

⁴¹² See Ofcom, [Promoting innovation and investment in the Internet of Things: Summary of Responses and Next Steps](#), pp.16-19.

⁴¹³ [Mediahawk](#), pp. 1-2.

⁴¹⁴ [Citizens Advice](#), p. 3.

⁴¹⁵ [Roake, Mr D.](#), p. 6.

⁴¹⁶ See Ofcom, [Proposed Annual Plan 2016/17](#), p. 8; Ofcom, [Update on the ICO and Ofcom Joint Action Plan](#), December 2015.

⁴¹⁷ Ofcom, [Nuisance Calls \(Technical Measures\) Memorandum of Understanding](#), 14 December 2015.

Consumers in vulnerable circumstances

- A1.386 A number of respondents, including the South East LEP, Communications Consumer Panel, and ACOD called for Ofcom to focus on the needs of consumers in vulnerable circumstances, including elderly, disabled, and disengaged consumers in setting its policy.⁴¹⁸
- A1.387 *Ofcom will continue its work to protect consumers, especially those in vulnerable circumstances at risk of harm through its policy work and protection programme, including its investigations. In addition, Ofcom will monitor price increases, provide advice and information on pricing, and seek to make sure all consumers receive value from their communications providers.*
- A1.388 Vodafone considered that consumer protection regulation can give the monopoly provider of a service which other communications providers are obliged to provide a captive market. By way of example, Vodafone noted issues with BT's NGTR service and noted that there have been only limited downloads (c. 1,000) from the Google Play Store since its launch. Vodafone argued that this illustrated the danger of allowing BT a monopoly position in the provision of consumer services of clear social value, locking communications providers into the new service with BT as the sole supplier.⁴¹⁹
- A1.389 *GC 15 sets the approval criteria and KPIs for NGTR. Under this GC, relay service providers other than BT can seek Ofcom's approval and offer services to users. Ofcom will continue to monitor the operation and take-up of the NGTR service introduced in 2014. After a number of years of steady decline in take-up of the text relay service, there has recently been a small increase in call minutes handled by the service. We estimate that the service has been downloaded c. 8,000 times from the Google Play and Apple app stores combined, in addition to downloads from the NGT website (which are not counted).*

Media Literacy

- A1.390 The CWU and the Communications Consumer Panel and ACOD emphasized the importance of media literacy and online skills, in order to promote take-up and use of digital services among the portion of the UK population that remains off-line.⁴²⁰
- A1.391 *Ofcom agrees that media literacy is important and will continue to publish its research to highlight issues around digital inclusion and participation. We regularly talk to stakeholders about our findings, and sit on various government research working groups to promote these issues.*

Public Service Broadcasting

- A1.392 The Scottish Government, MG ALBA, and the BBC considered sufficiently high-quality broadband access important for the consumption of public service content through IPTV and VOD services.⁴²¹ The BBC urged Ofcom to ensure that PSB regulation was fit for the internet age, including with regard to prominence and

⁴¹⁸ [Communications Consumer Panel and ACOD](#), pp. 2 and 20-22; [South East LEP](#), pp. 2 and 7.

⁴¹⁹ Vodafone, [main response](#), p. 12.

⁴²⁰ [CWU](#), p. 6; [Communications Consumer Panel and ACOD](#), p. 22.

⁴²¹ Scottish Government, [main response](#), pp. 3-4, [MG ALBA](#), p. 1; [BBC](#), pp. 2 and 6.

access in new on-demand services.⁴²² The Scottish Government further called for better representation of the nations and regions and more Scottish-produced content on UK TV and radio platforms, including the BBC.⁴²³

- A1.393 *We have recently set out our position on these issues in Public Service Broadcasting in the Internet Age and Public Service Broadcasting in the Internet Age: the Nations of the UK and their Regions following the completion of our third review of PSB.*⁴²⁴
- A1.394 MG ALBA emphasized the need for universally available communications services in order to support the Gaelic language and Gaelic media.⁴²⁵
- A1.395 *The remit of MG Alba under the Communications Act 2003 is to ensure that there is a wide and diverse range of high quality television programmes in Gaelic available to persons in Scotland. Ofcom recognises that an increasing number of viewers want to access BBC and MG Alba content via the iPlayer, but that many areas in Scotland are still not able to access speeds fast enough to stream content. The broadband USO will give everybody in the UK the legal right to request a broadband connection capable of delivering a minimum speed of 10Mbit/s, ensuring all premises in Scotland will have the opportunity to access speeds capable of streaming on demand content.*

Communications for business, including microbusinesses

- A1.396 FCS asked for a regulatory approach that understands the needs of business customers, including both SMEs and enterprise level users, and public sector organisations.⁴²⁶
- A1.397 The Communications Consumer Panel and ACOD drew Ofcom's attention to the importance of supporting the growth of microbusinesses by supporting their engagement with the communications sector.⁴²⁷
- A1.398 *We have considered business users throughout our review. We will also continue to work on the issues faced by SMEs on the availability and quality of broadband services and continue to improve SMEs' ability to engage in communications markets. We set out our detailed actions in our report on Broadband services for SMEs.*⁴²⁸

Emergency services call handling

- A1.399 Vodafone said that BT remains the only credible supplier of emergency services call handling. Vodafone argued that BT has taken advantage of its monopoly position to raise the cost of handling PTSN calls.⁴²⁹

⁴²² [BBC](#), pp. 2-5.

⁴²³ Scottish Government, [main response](#), pp. 3-4.

⁴²⁴ Ofcom, [Statement, Public Service Broadcasting in the Internet Age, 2 July 2015](#); Ofcom, [Public Service Broadcasting in the Internet Age: the Nations of the UK and their Regions, 2 July 2015](#).

⁴²⁵ [MG ALBA](#), pp. 1-2.

⁴²⁶ [FCS](#), p. 21.

⁴²⁷ [Communications Consumer Panel and ACOD](#), p. 24.

⁴²⁸ Ofcom, [Broadband Services for SMEs](#), 25 June 2015.

⁴²⁹ Vodafone, [main response](#), pp. 12-13.

A1.400 *Since 2014, BT has been the predominant provider of emergency call handling services in the UK. We meet regularly with BT to discuss issues relating to emergency calls, including in relation to its provision of call handling services.*

Resilience of communications networks in a national crisis

A1.401 The UK Telecommunications User Group argued that regulation is needed to ensure that the infrastructure offered by any provider is robust and protected in times of national crisis or disputes with other countries.⁴³⁰

A1.402 *Network providers are already required under the Communications Act 2003 to take all appropriate steps to protect the availability of their public networks. This obligation is not specific to any particular threat. The issue of whether additional protection is necessary in the face of specific threats to national security, such as a dispute with another country, would be a matter for Government.*

Number portability

A1.403 A number of communications providers submitted that number portability is an issue that deserves Ofcom's attention, including Union Street Technologies.⁴³¹ Simwood in particular criticised Ofcom's approach to number portability.⁴³²

A1.404 BT suggested that a number management database could improve the number porting process as it would remove the need to enter into bilateral relationships between communications providers.⁴³³

A1.405 Simwood, Nine Group and FCS identified issues with BT's IPX system, including functionality issues and the status of IPX as a potential point of failure for the number porting process.⁴³⁴

A1.406 ITSPA criticised the state of number porting in the UK and argued that more guidance to GC 18 is needed to improve the process, that Number Portability Process and Commercial Working Group is not considered effective and that SMP remedies are appropriate given that the holder of a number range has a monopoly in the provision of number portability for that range.⁴³⁵

A1.407 Telefonica UK suggested that seeking OTT portability might create greater benefits for consumers than making 'incremental' benefits to the mobile number porting system.⁴³⁶

A1.408 *We recognise that there is scope for improvement in the way fixed numbers are ported today. However, we have not been able to reach industry consensus on how to take this forward when we have looked at this in the past.*

A1.409 *In the first instance, we would like to see industry reach consensus on how improvements could be made, for example through the relevant OTA forums.*

⁴³⁰ [UK Telecommunications User Group](#), p. 5.

⁴³¹ [Union Street Technologies](#), p. 2.

⁴³² [Simwood](#), p. 3.

⁴³³ BT, [main response](#), p. 61.

⁴³⁴ [Simwood](#), pp. 5-6; [Nine Group](#), p. 2; [FCS](#), pp.11-12.

⁴³⁵ [ITSPA](#), pp. 1-7.

⁴³⁶ [Telefonica UK](#), p. 16.

However if progress is not possible, then we will welcome more detailed proposals from stakeholders on particular improvements to the current system that could be made.

Price controls on domain names and telephone numbers

- A1.410 Powered by Vision argued that price controls needed to be retained on items such as phone numbers and .uk addresses because when a supplier presents customers with a price below cost, this represents anti-competitive behaviour.⁴³⁷
- A1.411 *The pricing of domain names is not a matter for Ofcom. Under the Digital Economy Act 2010, Government has powers to intervene in the structure and operation of Nominet, which sets UK domain prices, if it has concerns.*
- A1.412 *Ofcom launched a pilot scheme of charging for geographic telephone numbers in certain areas in April 2013.⁴³⁸ The scheme aimed to incentivise efficient use of numbers. We will be consulting shortly on our review of the pilot and proposals for charging for geographic numbers going forward. We are not currently considering charging for other number types as they are not subject to the same level of scarcity.*

Spectrum issues

- A1.413 Three and Vodafone both raised the issue of the asymmetry of spectrum holdings between the MNOs.⁴³⁹ Three argued that Ofcom should make firm commitments to release spectrum to support forecast traffic volume growth and set spectrum release targets in line with projected demand.⁴⁴⁰ Vodafone urged caution when it comes to the use of spectrum auctions to engineer market structures.⁴⁴¹
- A1.414 The UKB Group drew Ofcom's attention to the possibility that over-concentration of spectrum in a small number of players is producing anti-competitive consequences.⁴⁴²
- A1.415 The Scottish Government argued that Ofcom should consider how spectrum licensing and auctioning could help incentivise the delivery of infrastructure, along with spectrum sharing and sub-leasing.⁴⁴³
- A1.416 The Ofcom Advisory Committee for Scotland recommended ways in which Ofcom might re-examine its approach to spectrum policy, such as the Ofcom Advisory Committee for Scotland's suggestion that at future spectrum auctions some spectrum should be allocated to projects that concern the public good.⁴⁴⁴
- A1.417 *Our principal duty is to further the interests of citizens and consumers, where appropriate by promoting competition. We are also required to secure optimal use of spectrum. Our decisions on spectrum use therefore put the interests of all UK*

⁴³⁷ [Powered by Vision](#), p. 7.

⁴³⁸ Ofcom, [Promoting efficient use of geographic telephone numbers](#), 18 July 2012.

⁴³⁹ [Three](#), pp. 33-35; [Vodafone](#), pp. 20-23.

⁴⁴⁰ [Three](#), pp. 39-42.

⁴⁴¹ Vodafone, [main response](#), p. 22.

⁴⁴² [UKB Group](#), pp. 17-18.

⁴⁴³ Scottish Government, [main response](#), p. 5.

⁴⁴⁴ [uSwitch](#), p. 5; [Ofcom Advisory Committee for Scotland](#), p. 2.

citizens and consumers at their heart, when preparing an auction or when considering potential competition concerns from a private trade of spectrum rights. We are also keen for the market and competition to deliver good outcomes as far as possible, and intervene e.g. to protect consumers only where necessary.

- A1.418 The Ofcom Advisory Committee for Scotland said that it is important that spectrum is available in future for developing other uses beyond mobile, such as IoT.⁴⁴⁵
- A1.419 *We have previously engaged with stakeholders to assess demand for spectrum for uses such as IoT.⁴⁴⁶ We continue to monitor developments and, where appropriate, identify spectrum bands that could be used to support the IoT.⁴⁴⁷ We also authorise spectrum with only those technical requirements that are necessary to manage the risk of interference, subject to international obligations. IoT applications capable of operating under licensed conditions are open to licensees.*
- A1.420 The Communications Consumer Panel and ACOD said that careful consideration should be given to the impact that changes in spectrum allocation might have on DTT consumers, especially people in vulnerable circumstances.⁴⁴⁸
- A1.421 *The impact on consumers, including those in vulnerable circumstances and indeed all affected stakeholders, of any decisions to change spectrum use is a key consideration. Our decision to change the use of the 700 MHz band illustrates this.⁴⁴⁹*

Pan-European products and processes

- A1.422 Verizon called for greater harmonization of approaches towards authorisations across the EU, also suggesting that that the single digital market would be aided by adopting harmonised wholesale IP-access products across the EU.⁴⁵⁰
- A1.423 *Ofcom does not require operators to notify it in order to provide services in the UK. We expect that the question of harmonising notification processes across the EU is likely to be considered in the context of the recently launched review of the EU regulatory framework for electronic communications (with legislative proposals currently expected in autumn 2016). Regarding IP-access products across the EU, Ofcom notes that the BEREC work programme for 2016 includes a workshop on 'current developments in IP interconnection markets' as well as a report on 'migration to all IP in the access network'. BEREC is also continuing to undertake work that seeks to establish a 'Common Position on Layer 2 wholesale access products'. (Under the Regulatory Framework for Electronic Communications, regulatory authorities are obliged to take utmost account of BEREC Common Positions when adopting decisions for their national markets.) Ofcom is fully engaged in these projects and is fully supportive of initiatives that aid the development of an internal market and which do not impose an undue regulatory overhead on communication providers and businesses.*

⁴⁴⁵ [Ofcom Advisory Committee for Scotland](#), p. 2.

⁴⁴⁶ Ofcom, [Promoting Investment and Innovation in the IoT](#), consultation, 23 July 2014.

⁴⁴⁷ Ofcom, [More Radio Spectrum for the IoT](#), consultation, 10 September 2015.

⁴⁴⁸ [Communications Consumer Panel and ACOD](#), pp. 10-11.

⁴⁴⁹ Ofcom, [Decision to make the 700 Mhz band available for mobile data](#), statement, 19 November 2014.

⁴⁵⁰ [Verizon](#), pp.11-12.