

A Review of Ofcom's Proposal to Impose Deeper Separation Remedies on BT

TONY SHORTALL

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Contents

About the Author	3
Summary	4
Regulatory approaches to access competition.....	6
Investment Co-ordination.....	8
Technological Neutrality	10
Review of Article 13a and the Requirements Associated with a Possible Triggering of Article 13a	12
Effective competition.....	13
Effective Competition in the retail market as an objective	13
Article 13a as an ‘Exceptional’ remedy.....	14
Beyond effective competition.....	17
The prospects for infrastructure based competition.....	17
Impact and costs of the measures	20
Conclusions	22
Bibliography	24
Figure 1: DESI Index for EU 28 - 2016	15
Figure 2: Connectivity within DESI 2016.....	15
Figure 3: Fixed broadband within the Connectivity section of DESI 2016.....	16

About the Author

Tony Shortall has 20 years of experience in the telecommunications sector. He is currently the Director of Telage, a consultancy in the field of telecommunications economics and regulation which advises firms and organisations. He is an acknowledged expert on telecommunications policy and regulation and has helped clients and organisations address and manage a range of regulatory issues and challenges. Clients include fixed, cable and mobile operators as well as manufacturers, industry associations and public institutions and bodies.

While an economist with DG Information Society (2001-2008), Tony Shortall worked on developing the 2002 eCommunications Regulatory Framework and the subsequent Reform adopted in 2009. He was responsible for producing the original Recommendation on Relevant Markets, a central element of the current regulatory process and participated in the second iteration of the same document. He commissioned and managed the external reports on market definition which fed into both documents. He was the DG Information Society representative in preparation of the SMP Guidelines which advises National Regulators on how to determine SMP in telecommunication markets. He represented the Commission in the preparation of the ERG Common Position on Remedies in addition to commissioning and managing the Commission's own studies on remedies. He prepared the 1st draft of the Commission Recommendation on Next Generation Access as well as working on the Commission Recommendation on Termination Rates. He has worked extensively with the EU Member States on the implementation of the EU Regulatory Framework and in particular through the 'Article 7' procedure where he acted as principle advisor within DG Information Society to the team which assessed National Regulator's market assessments.

In 2008, Tony Shortall joined Ireland's 'International Advisory Forum on Next Generation Broadband' established by then Minister for Communications, Eamonn Ryan and continues to act as an advisor to the Irish Telecom Regulator (COMREG).

He was the senior economist at the Irish Competition Authority (1997-99) dealing with network industries and also has experience in the telecommunications industry having worked with both fixed and mobile operators in the Irish Market.

He holds degrees in economics from University College Cork, Ireland.

Recent publications include:

CAVE, M, and SHORTALL T., "How incumbents can shape technological choice and market structure—the case of fixed broadband in Europe." Info 18.2 (2016).

SHORTALL, T. CAVE M. (2015) 'Is Symmetric Access Regulation a Policy Choice? Evidence from the Deployment of NGA in Europe.' Digiworld Economic Journal, no. 98, 2nd Q. 2015

SHORTALL, T. (2012), "Fibre Access: Network Developments in the OECD Area", OECD Digital Economy Papers, No. 182, OECD Publishing.

Summary

This report considers the proposal put forward by Ofcom to impose a deeper separation of BT's business under Article 13a of the Access Directive, as articulated in the Ofcom consultation document dated 26 July 2016. Ofcom has cited two main concerns to support its proposal: an allegation that BT may discriminate against competitors through its choice of strategic investments, and a suggestion that BT has under-delivered in terms of FTTP availability.¹

From a regulatory perspective, the purpose of Article 13a is clearly an extraordinary measure intended only to be used where the orthodox measures in Articles 9-13 have failed to deliver effective competition to the retail market. However, one of the main conclusions of this report is that Ofcom is seeking to give effect to its changed policy direction rather than being a reaction to a case of the existing remedies failing to address the concerns Ofcom has identified.

All the evidence available suggests that the existing remedies imposed on BT have been highly effective in ensuring competitive service provision. Ofcom's potential use of Article 13a of the Access Directive to implement its proposal would therefore be a misuse of this provision. However, even if one considers that the procedural mechanism or its misuse is immaterial, the change in policy direction also contravenes some basic tenets of good regulatory practice and appear flawed on the merits. In particular, a decision to promote a deeper form of separation would typically be motivated by an expectation that services-based competition would be enhanced and that infrastructure-based competition will be weakened. Assuming Ofcom's concerns regarding discrimination are valid (which it has not demonstrated), a consequence of more independent decision making by Openreach may be that alternative operators are less inclined to invest in their own infrastructure.

However, one of Ofcom's stated policy objectives is to achieve infrastructure based competition over a large portion of UK households beyond that which exists today between BT's network and that of the CATV network operator. These simultaneous objectives are not consistent with each other. Indeed, it is clear that those who drafted Article 13a were cognisant of this non-compatibility, which is why a remedy under Article 13a can only be imposed where there is no or little prospect of effective and sustainable infrastructure based competition within a reasonable time-frame.

In terms of good regulatory practice, the decision by Ofcom to back a particular technological solution is also not consistent with a policy of technological neutrality at the heart of the European Framework and regulatory best practice around the world. While FTTP may be a part of the technology solution of the future, the path to achieving FTTP, the timing of the steps in that path, and the ultimate mix of technologies are all part of an extremely complex decision matrix that is best left to the parties making those investments.

¹ Ofcom consultation document, paragraphs 1.14-1.15

Indeed, even if one overlooks misuse of Article 13a, and the lack of economic logic to Ofcom's proposed intervention (promoting service competition but seeking infrastructure based competition), there are other regulatory tools and mechanisms that may achieve Ofcom's stated goals and which Ofcom has not shown are less efficient than pursuing a deeper form of separation for BT. This is despite the fact that there is a requirement to demonstrate that the use of provisions under Article 13a would be the most efficient way to address competition problems identified.

This report looks at each of the elements in the following sections from the perspective of regulatory good practice, starting with a look at the general background and economic considerations in section one before looking in detail at the applicability of Article 13a in the UK and then drawing conclusions.

Regulatory approaches to access competition

This section considers access competition in telecommunication markets and looks at the inevitable trade-offs between service-based and infrastructure-based models of competition. It also considers the role of economies of scale and economies of scope and the impact of separation on these aspects of network economics. These issues go to the heart of Ofcom's objective to accelerate network investments by both BT and third parties, the regulatory means to achieve that end must therefore reflect these considerations.

There are two forms of competition that can be achieved over a network that exhibits significant economies of scale and or scope. These are either service-based or infrastructure-based competition. Service-based competition occurs where an entrant uses the infrastructure that enjoys economies of scale and scope (effectively sharing those scale economies with the network owner) while infrastructure-based competition implies that the entrant operator eschews the incumbent infrastructure altogether and builds its own network thereby seeking to replicate the economies of scale and scope enjoyed by the other network. Issues arise as to whether scale economies arise over the whole of production or only a part; and if so, what are the extent of those scale economies i.e. is there room for two or more operators.

Economies of scope are said to exist if the joint-production of several outputs is cheaper than the production of the same outputs by means of separated specialised firms². In the case of telecommunication networks, economies of scope exist where several products use the same inputs (telephony, broadband, broadcast all use the same network for instance) implying that costs can be shared across multiple products.

Competition in fixed telecommunication markets is related to the presence of a distinct downstream segment (the retail market which involves the provision of services to the final users) which is potentially competitive depending on access to the upstream market (wholesale access infrastructure, i.e. the so-called "last mile") which shows significant scale economies and therefore tends towards monopoly or oligopoly outcomes.

While access competition can take different forms, infrastructure-based competition where the competitors rely on their own infrastructure rather than on the access infrastructure of the incumbent is typically preferred by policy makers. However, while infrastructure-based competition may be seen as attractive in driving incentives to upgrade networks, it can require longer timeframes to be implemented and significant investments on the side of the competing firms, and, as noted above, there is a balance to be struck between the benefits of competition and the inefficiencies arising from the duplication of fixed costs and loss of economies of scale.

An alternative (and quicker) solution is to foster service-based competition whereby competitors use the incumbent firm's access network to provide their services. The level of required investment is less and the development of a competitive market is quicker, but the

² Baumol, Panzar and Willig (1982),

role of regulation is key to delivering these outcomes. In particular, the regulator and the regulatory regime play a critical role in establishing appropriate access points and determining the correct access price. A particular issue is the risk of undermining the emergence of infrastructure based competition by distorting the build/buy signals in the market.

Of course, a prerequisite for services-based competition is some form of mandatory access to the incumbent network so as to allow competitors the possibility of using the access network on reasonable conditions. A slew of regulatory obligations exist in Europe allowing regulators to impose controls to prevent discriminatory behaviour by dominant entities. These obligations are listed in Article 9 to 13 of the Access Directive³ and can be imposed when dominance has been determined by the national regulator (NRA). In the UK, these forms of regulatory intervention are highly developed, very extensive⁴ and have proven to be highly effective.

A further step would be to require forms of business separation to deter and to detect undesirable behaviours.

Separation can take a number of forms⁵ which range from accounting separation to the extreme option of ownership separation (whereby the incumbent has to divest the access network such that the legal ownership of the network and the rest of the firms results with two different entities) which has been implemented in some countries for other network industries (e.g. electricity).

As a matter of good regulatory practice, it is important to identify the potential pros and cons of a separation policy to understand the magnitude of gains and costs, which must be correctly balanced in term of losses in economies of vertical integration and the costs of implementation of functional separation. Indeed, this is enshrined in Article 13a(c), which requires the regulator to assess the impact of the proposed separation remedy on the undertaking, the regulator, the electronic communications sector as a whole, incentives to invest, competition and consumers.

Whether or not the competition benefits offset the losses is mainly an empirical question, whose answer requires quantification of both the gains and the costs.

³ Directive 2002/19/EC of the European Parliament and of the Council of 7 March 2002 on access to, and interconnection of, electronic communications networks

⁴ The Commission's 'Overview on notifications' for Article 7 on its CIRCABC platform records that the UK has made the most interventions on their markets (when withdrawal, veto, and closed by Recommendations are filtered out).

⁵ Op citation at 4

Investment Co-ordination

A deeper form of functional separation is a significant intervention in the marketplace, with substantial costs that should not be undertaken lightly. Any separation of the access network is complex and has uncertain outcomes and many questions to be answered. The benefits of a deeper separation of the BT network from its retail business are uncertain while the costs are certain and appear potentially large. It is precisely because of these trade-offs that when drafting Article 13a, European legislators put an extensive set of requirements in place to be met by any NRA seeking to impose such a remedy.

The key risks that must be considered as part of any assessment are as follows:

Coordination issues - The imposition of separation remedies necessarily creates different incentives for the network and services operations. The party making the investments (the network) is no longer in control of the entity that will determine the success or otherwise of those investments (the retail arm). Issues of complexity also arise where multiple parties with different views of the world must agree on investment needs. Incentives to slow technological change and investments abound.

Boundary issues - Separation of telecommunications networks poses particularly difficult problems at a technical level, given the growing complexity of modern systems and the presence of intelligence in different network layers. Where, in evolving networks, do 'wholesale' services end and 'retail' value-added services begin? It may be difficult to excise particular services that are effectively embedded in the infrastructure and which could readily be characterised either as retail or wholesale activities - attempting to simply divide assets up into network assets and 'everything else' cannot reflect the complexity of modern network infrastructure.

Risk mitigation - As noted by Patrick Xavier writing for the OECD in 2004⁶, one of the principal reasons for vertical and horizontal integration is to reduce risk when there are a number of different technological options to choose from.⁷ Rational investors are likely to spread the risk of employing an appropriate combination of these technologies or moving incrementally between technologies. The difficulty of this task for the network owner is increased by the uncertain demand for new services.

"Firms are reluctant to invest in infrastructure modernisation if there is uncertainty regarding consumer interest in the new products supplied through the technology. Early adopters avoid making commitments to technology that will not be compatible with other

⁶ DSTI/ICCP/TISP(2002)1/FINAL "Structural Separation of the Local Loop: Benefits and Costs"

⁷ This is the situation for fixed telecommunications investment today which must consider a multitude of access technologies including vDSL, vectored vDSL, G.Fast, P2P FTTP, P2MP FTTP, WDM P2MP FTTP etc...See SHORTALL, T. (2012), "Fibre Access: Network Developments in the OECD Area", OECD Digital Economy Papers, No. 182, OECD Publishing.

communications technologies or that will be expensive relative to facilities that can be deployed in the near future.”⁸

Therefore, the investment decision is not only about determining the correct technology solution but also about choosing an optimum path to that solution and the time to deploy each step in that path in the context of highly uncertain market conditions. These are non-trivial issues in the telecom sector, for instance, the decision by Openreach to adopt FTTC rather than FTTP in 2009 meant that not only could demand be met in a timely fashion but also that the cost of deploying FTTP today is significantly less than the cost of deploying that technology in 2009.

Risk of deterring infrastructure competition - The European Commission in its impact assessment⁹ of its recently published proposals for reform of the regulatory framework noted with respect to separation that *“there is a risk that provisions concerning wholesale-only models may foster separation and therefore increase reliance on regulated wholesale access to the detriment of potential developments in infrastructure-based competition thereby impeding incentives in fast infrastructure investment”*.

In a specific reference to the UK experience of using functional separation remedies in the past the Commission comments on the resulting lack of investment by competitive telecom providers:

“It is notable for example that there is limited infrastructure-based competition in the UK beyond the pre-existing copper and cable infrastructure. BT introduced functional separation (under pressure from the UK regulatory authority Ofcom), in 2005. It is possible that this approach reduced incentives for infrastructure-based competition.”

⁸ DSTI/ICCP/TISP(2002)13/FINAL “The Benefits and Costs of Structural Separation of the Local Loop”.

⁹ SWD(2016) 303 final PART 1/3

Technological Neutrality

This section considers the need to rely on private firms to make the right technology choices rather than impose an outside vision of how networks should evolve as Ofcom does in its proposal. Technological neutrality is accepted as best practice in every advanced regulatory regime in the world. This section looks at the reasons that Ofcom should not seek to dictate or prefer technology outcomes and the relevance of this issue to an Article 13a assessment.

As noted by Cave and Shortall¹⁰, one of the often repeated principles of the European regulatory framework is that it embodies technological neutrality. The 2002 Framework explicitly introduced the concept of technological neutrality, describing it 'desirable'¹¹ rather than essential. This nuanced approach can be seen as a continuation of the Commission's previous line, which in essence was that it was best to leave technology choice to industry and not try to choose a technology winner. There were exceptions permitted in this approach; thus the promotion of specific technology might be read as permissible where industry has already reached a conclusion that it was the best (the GSM case) or where other exceptional circumstances might apply.

Maxwell and Bourreau (2015)¹² distinguish three meanings of what is technological neutrality:

1) Technology neutrality means that technology standards are designed to limit negative externalities, such as radio interference or pollution, in a minimally intrusive way. As so often happens, this is normally best achieved by regulating outputs rather than inputs – i.e. policy makers should describe the result to be achieved, but should leave companies free to adopt whatever technology is most appropriate to achieve the result.

2) A second interpretation of technology neutrality is simply that the same regulatory principles should apply regardless of the technology used. Thus regulations should acknowledge convergence and not treat similar services in different ways. This is exemplified in approaches to spectrum management which prohibit the inclusion in spectrum licensing of terms which mandate the use of particular technologies. This was expressly intended in provisions of the 2009 Better Regulation Directive¹³ which offered mobile operators more freedom in their choice of technology – clearly a complete reversal

¹⁰ Cave, Martin, and Tony Shortall. "How incumbents can shape technological choice and market structure—the case of fixed broadband in Europe." *info* 18.2 (2016): 1-16.

¹¹ DIRECTIVE 2002/21/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 7 March 2002 on a common regulatory framework for electronic communications networks and services (Framework Directive) as amended by Directive 2009/140/EC and Regulation 544/2009 – See Recital 18.

¹² Winston Maxwell and Marc Bourreau, Technology neutrality in Internet, telecoms and data protection legislation, *Computer and Telecommunications L. Rev.* (2015), available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2529680

¹³ Directive 209/140/EC

of the approach adopted in the GSM Directive¹⁴. (This has to be distinguished from the much stronger notion of service neutrality, which would allow a licensee to switch the service produced, for example from broadcasting to mobile communications, which is far more likely to lead to interference problems.)

3) The third and final interpretation is that technology neutrality is a protection against attempts to nudge the market in a direction which is considered desirable by policy makers or regulators. In essence, policy makers should not try to pick technology winners.

These overlapping approaches suggest an underlying issue. Most statements of the merits of competition (and of limiting opportunities to intervene in well-functioning or effectively competitive markets) emphasise the importance of decentralising the choice of technology to those organisations which a) are likely to have the best information about it at their disposal and b) by virtue of carrying the can for any poor choice, have the strongest incentive to make the right choice. These are, of course, the firms in the marketplace and their investors, rather than government officials or regulators.

A key problem with Ofcom's approach is that the concept of technological neutrality is not reflected in the stated policy objectives which underlie its proposal. Ofcom opts not for a form of technological neutrality such as identifying a series of desirable outputs and letting industry choose the technology to get to that outcome (option 3 in Maxwell and Bourreau's model) but instead seeks a specific technology solution, stating that "*our ambition for the future is that more homes and offices receive 'fibre to the premises' (FTTP)*".¹⁵ While this may indeed ultimately be the right outcome (or perhaps not, there are suggestions that 5G will provide wireless solutions over the last tens of metres), what we have seen and discussed is that it is not just the technology destination but also the road travelled and the timing of the journey that are critically important.

Seeking to determine technology outcomes is clearly perilous, particularly at a time when big technology advances are being made in both fixed and wireless technologies with the consequent impact on private firms' decisions to make large bets on the most appropriate technology solutions. Already, some 5G solutions have been touted as sufficient to replace in-building wiring of fibre. Such complex technological choice decisions ought to be done by those with the best information and who face the largest consequences, namely the private firms who own and run the network operations and who bear the cost and benefit of the investment decision.

The targets set by Ofcom in terms of specific network investments cross the line of technological neutrality and the potential impact on BT of a miscalculation would be considerable and would be at odds with section c of Article 13a(2). Private firms rather than public authorities should determine what technologies are deployed and when, Ofcom should restrict itself to targeting market outcomes (in terms of price, choice and quality, as it has in the past).

¹⁴ For an optimistic review of the consequences of this Directive, see J Pelkmans, The GSM standard: explaining a success story, *Journal of European Public Policy*, Volume 8, Issue 3, 2001, pp. 432-453.

¹⁵ Ofcom consultation document, paragraph 1.15

Review of Article 13a and the Requirements Associated with a Possible Triggering of Article 13a

This section of the report considers whether, should Ofcom notify its proposal to the European Commission under Article 13a of the Access Directive, it is likely to meet the threshold required and the conditions stipulated therein for acceptance. The analysis notes that each of the conditions set out in the Article 13a provision are well grounded in economics and seek to mitigate the risks of implementing functional separation inappropriately.

The dangers of functional separation have been outlined and its use is therefore constrained by a number of conditions that should be met before invoking Article 13a. The essential condition is that there is no effective competition despite the use of orthodox remedies - put another way, there is a dominant entity on the market that is not constrained despite the remedies imposed. This in turn suggests that such a market must be performing very poorly with market outcomes that are manifestly worse than what would be expected in comparable countries. This is clearly not the case in the UK since the market outcomes are good and compare very favourably with European peers – there is certainly nothing exceptionally poor about the outcomes in UK telecom markets.

The full set of conditions to be met can be summarised as follows:

- a) the existing remedies have failed to achieve effective competition;
- b) there are also persisting competition problems and/or market failures in the market targeted;
- c) there are exceptional circumstances that require Ofcom to use exceptional measures other than the SMP conditions in Articles 9-13;
- d) there is no prospect of infrastructure based competition in a reasonable time-frame;
- e) the regulator has carried out an analysis of the impacts of the measure on the company, the regulator, the the electronic communications sector as a whole, incentives to invest, competition and consumers; and
- f) the proposed separation remedy is the most efficient means to enforce remedies aimed at addressing the competition problems/markets failures identified.

The economic risks associated with deeper forms of separation have been set out elsewhere. European legislators were conscious of these risks when they drafted the provision for the imposition of separation remedies.

Effective competition

Article 13a(1) concerns the failure of existing remedies to achieve effective competition:

1. Where the national regulatory authority concludes that the appropriate obligations imposed under Articles 9 to 13 have failed to achieve effective competition and that there are important and persisting competition problems and/or market failures identified in relation to the wholesale provision of certain access product markets, it may, as an exceptional measure, in accordance with the provisions of the second subparagraph of Article 8(3), impose an obligation on vertically integrated undertakings to place activities related to the wholesale provision of relevant access products in an independently operating business entity. That business entity shall supply access products and services to all undertakings, including to other business entities within the parent company, on the same timescales, terms and conditions, including those relating to price and service levels, and by means of the same systems and processes.

Therefore, in order to meet the requirements of Article 13a it must first be shown that the remedies imposed under Articles 9-13 failed 'to achieve effective competition' – this implies that any SMP is not controlled by the remedies. Therefore a dominant entity remains unconstrained by remedies on the target markets with the further implication that the observed market outcomes (in terms of price/output/structure) would be expected to be materially worse than the outcomes observed in other Member States where the SMP is constrained.

Effective Competition in the retail market as an objective

The question arises as to where the assessment of effective competition should take place, at the retail or wholesale level? An assessment of the state of competition on the market requires an assessment that starts at the retail level and then moves through the related wholesale markets.

As noted by the Commission:

*'Ultimately, the objective of ex ante regulatory intervention is to produce benefits for end-users by making retail markets competitive on a sustainable basis.'*¹⁶

The Commission is more explicit in its recent proposals for regulatory reform¹⁷ where it states:

'The objective of any ex ante regulatory intervention is ultimately to produce benefits for end-users in terms of price, quality and choice by making retail markets effectively competitive on a sustainable basis. It is likely that national regulatory authorities will

¹⁶ SWD(2014) 298 COMMISSION STAFF WORKING DOCUMENT EXPLANATORY NOTE Accompanying the document Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services

¹⁷ COM(2016) 590 final 2016/0288 (COD)

gradually be able to find many retail markets to be competitive even in the absence of wholesale regulation, especially taking into account expected improvements in innovation and competition.'

The market analysis is a prospective analysis but a tendency towards effective competition does not necessarily imply that the market will reach the status of effective competition within the period of review¹⁸. It simply means that there is clear evidence of dynamics in the market within the period of review which indicates that the status of effective competition will be reached in the foreseeable future without ex ante regulation in the market concerned. Therefore, anticipated events must be expected within a precise timeframe and on the basis of concrete elements (e.g. business plans, investments made, new technologies being rolled out) rather than something which may be only theoretically possible.

All of which points to the fact that it is an assessment of effective competition at the retail level that is the appropriate market level at which competition should be assessed for the purposes of Article 13a. As noted already, these retail market outcomes would have to demonstrate very poor outcomes in terms of prices and output to meet the criterion set. In this sense the exceptional nature of the remedy must relate to exceptional outcomes.

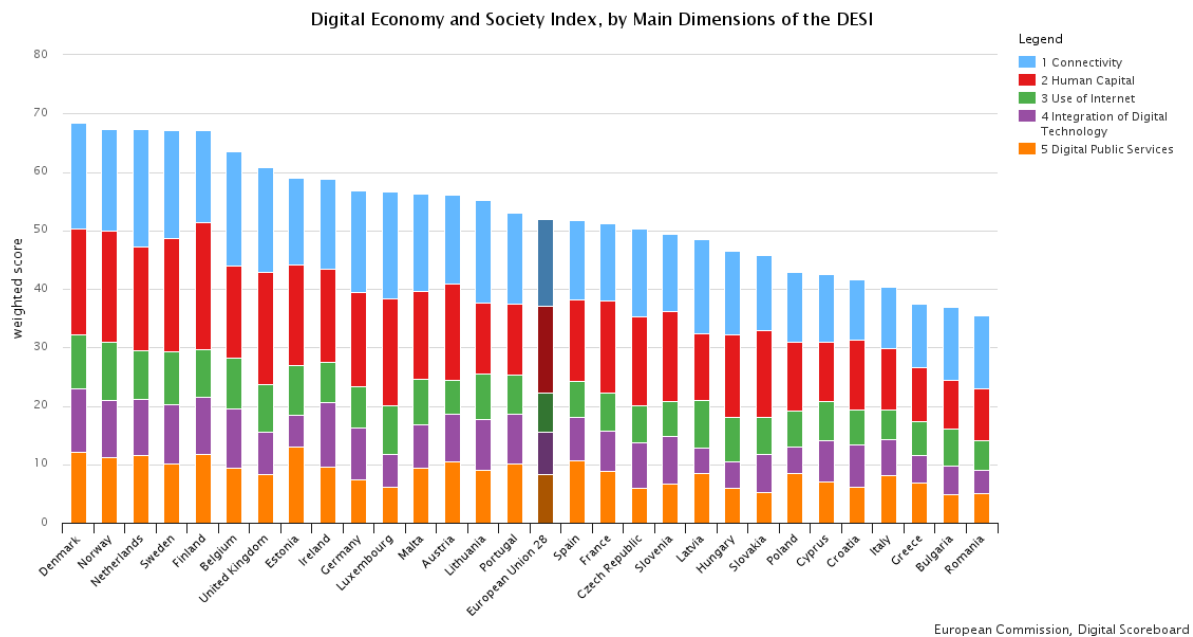
Article 13a as an 'Exceptional' remedy

In order to justify an exceptional remedy, such an intervention must be driven by a real failure in regulated outcomes such that comparisons with other markets judged to be performing well must be stark – marginal differences would not be sufficient since otherwise, the exceptional would be common. In turn, Ofcom must produce evidence of this relative failure and it needs to be stark.

However, this is not the case and if anything, the opposite is true. The Commission's own DESI indicators for 2016 show that overall the UK performs well above the EU average and ranks 7th out of EU 28.

¹⁸ See for instance paragraph 20 of the Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services (2002/C 165/03)

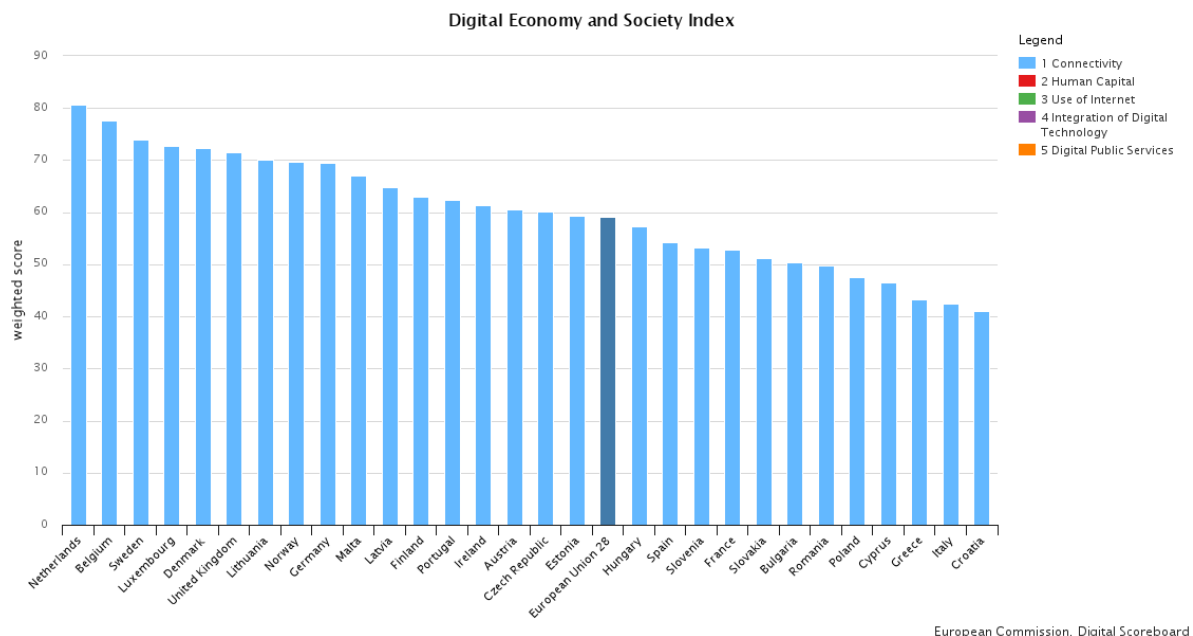
Figure 1: DESI Index for EU 28 - 2016



European Commission, Digital Scoreboard

Looking at just ‘connectivity’ within the DESI index we can see that the gap between performances widens as shown in figure 2 below but at the same time the UK’s relative position improves to 6th

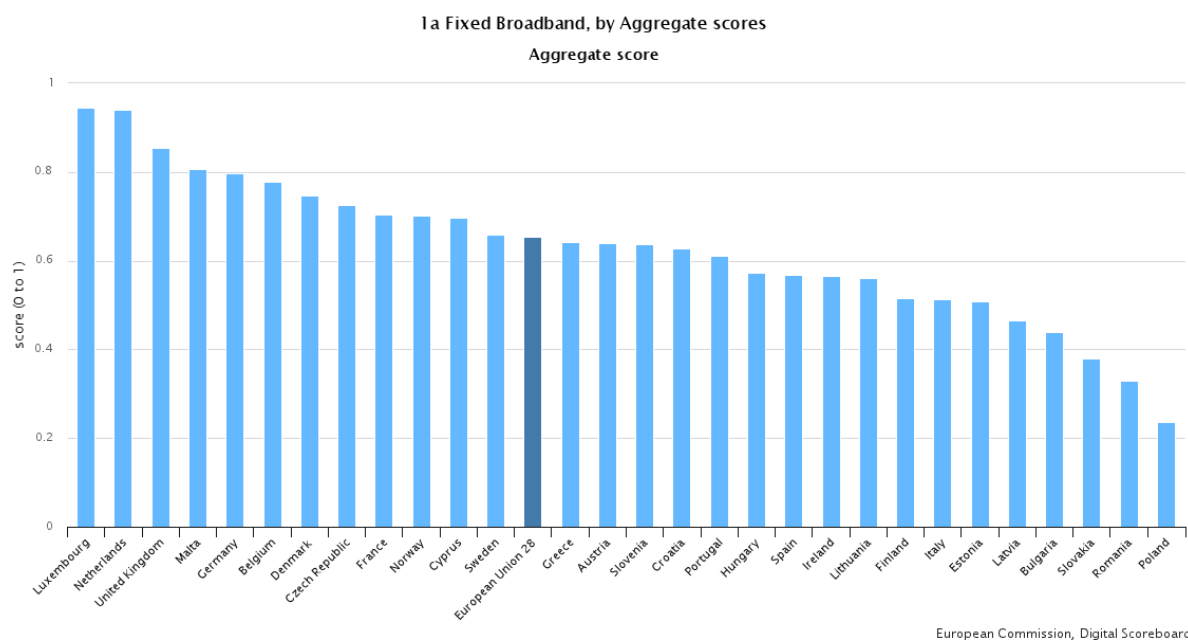
Figure 2: Connectivity within DESI 2016



European Commission, Digital Scoreboard

Finally, within the ‘Connectivity’ heading, metrics measured are Fixed Broadband, Mobile Broadband, Affordability and Speed. Affordability is also better in the UK than the EU average and looking just at the fixed broadband heading which is the focus of Ofcom’s intervention it can be seen that the range of positions widens in EU28 yet further from .2 to above .9 as shown in figure 3 below. The UK’s relative position climbs to 3rd behind Luxembourg and the Netherlands.

Figure 3: Fixed broadband within the Connectivity section of DESI 2016



The issues here, and it relates to the measure of effective competition in the previous section, is that based on any interpretation there is no suggestion of a dramatic market failure and there is no exceptional remedy required. In fact remedies applied in the UK since 2002 under the current regulatory framework appear to have elicited an excellent response from the market. The UK outperforms most EU markets, and virtually every EU market on the central focus of Ofcom which is fixed broadband.

Any possible structural remedy would need to address a substantive market failure in the relative performance of the telecommunication markets in question. While those countries closest to the right hand side in Figure 3 might have cases to consider, it is unlikely that other countries on the left hand side of the figure, including the United Kingdom, would meet the market failure threshold necessary to satisfy the requirements for imposition of a remedy under Article 13a.

Judged against similarly sized markets the UK's outperformance is more striking, of the traditional 'Big 5' EU nations not one does better than the UK on any of the metrics above.

All of which raises an important issue. What would justify an exceptional remedy? What we are told in Article 13a is that it can be considered where '*....appropriate obligations imposed under Articles 9 to 13 have failed to achieve effective competition and that there are important and persisting competition problems and/or market failures identified in relation to the wholesale provision of certain access product markets,....*'.

As we noted in the previous section, effective competition is measured at the retail level and as also noted above, properly applied regulation at the wholesale level should allow consumers to enjoy the benefits of competitive provision. This is exactly what is evidenced above for the UK market. Permitting an Article 13a intervention as outlined as 'exceptional'

would be an oxymoron, every other EU Member State could also justify using the exceptional remedy since their performance is worse than that of the UK and therefore the exceptional would become the mundane.

Beyond effective competition

In addition to the requirement to demonstrate the failure of the orthodox remedies there are a number of other conditions that an NRA must meet in its assessment of the market. These are set out in the second paragraph of Article 13a as follows:

2. When a national regulatory authority intends to impose an obligation for functional separation, it shall submit a proposal to the Commission that includes:

(a) evidence justifying the conclusions of the national regulatory authority as referred to in paragraph 1;

(b) a reasoned assessment that there is no or little prospect of effective and sustainable infrastructure-based competition within a reasonable time-frame;

(c) an analysis of the expected impact on the regulatory authority, on the undertaking, in particular on the workforce of the separated undertaking and on the electronic communications sector as a whole, and on incentives to invest in a sector as a whole, particularly with regard to the need to ensure social and territorial cohesion, and on other stakeholders including, in particular, the expected impact on competition and any potential consequential effects on consumers;

(d) an analysis of the reasons justifying that this obligation would be the most efficient means to enforce remedies aimed at addressing the competition problems/markets failures identified.

The prospects for infrastructure based competition

As set out in Article 13a(2)(b) there must be a reasoned assessment of a lack of prospective infrastructure-based-competition within a reasonable timeframe.

As discussed elsewhere there is a direct conflict between services based competition and infrastructure based competition. There is one model, the “ladder of investment” model, that attempted to reconcile the two: at one point it was held¹⁹ that a very gradual and incremental approach could be adopted whereby entrant operators could enter as a pure service based company and build up a customer base and then gradually make investments at scale and move a step closer to the end customer. At the end of the process, the service

¹⁹ BoR (11) 43 BEREC Report on the Implementation of the NGA-Recommendation

based operator would end up deploying its own access infrastructure resulting in full end-to-end infrastructure based competition.

The jury is still out on whether this model ever actually played out in reality²⁰ but what is clear now is that technological change, specifically the shift to NGA and FTTP infrastructures in particular, means that the service to infrastructure “investment ladder” model of competition cannot work anymore. This is because competitors cannot ‘gradually’ climb up the investment ladder when an existing or anticipated bandwidth demand can no longer be matched by a given copper infrastructure: the ladder itself would come to an abrupt end in the transition to a new network structure. Therefore entrants face an abrupt choice in terms of models of competition, either service based competition or infrastructure based competition.

This aspect has been acknowledged by the European Commission when it approved the de-facto neutralisation of some physical unbundling regimes (e.g. in Belgium²¹, Austria²², Ireland²³ and in part of Germany²⁴), effectively removing one important ladder rung. That is not to criticise this facet of a shift in regulation *per se* but simply to recognise that entrants now face a stark choice, to rely on service based competition or make a rather large leap to full throated infrastructure based competition based on fibre to the premises.

Therefore it is clear that the aims of (i) service based competition based on wholesale access and (ii) the deployment of competing end-to-end infrastructures, are not compatible with each other. That is precisely why European legislators made this requirement to demonstrate no prospects for infrastructure based competition as a condition for the imposition of functional separation.

It can be expected that the existing infrastructure based competition between the telecom and CATV network operators in the UK will continue and is likely to be enhanced. The largest European greenfield FTTx build in Europe for the period 2017-2018 is likely to be that of Virgin Media in the UK. However, much will depend on what action Ofcom takes, and in particular whether it creates the incentives for new infrastructure providers to enter the market or not.

To date, Ofcom’s proposal looks counterproductive (i.e. is likely to undermine market entry) because on the issue of pushing investments towards service-based or infrastructure based competition, the proposed measures push the market strongly towards service-based competition.

In effect there appears to be a logic-gap in Ofcom’s approach – Ofcom itself sees infrastructure based competition on FTTP emerging based on infrastructure access. The

²⁰ See for example, Bourreau, Marc, Pinar Doğan, and Matthieu Manant. "A critical review of the “ladder of investment” approach." *Telecommunications Policy* 34.11 (2010): 683-696.

²¹ Market analysis decision of July 1st 2011 (BE/2011/1227-1228)

²² Market analysis decision (Market 4) as of December 2013 (AT/2013/1475-1476)

²³ Market analysis decision IE/2011/1207

²⁴ Regulatory Order BK3d-12/131 from 29/08/2013 (DE/2013/1484)

proposed Article 13a measures risks undermining that investment and hence the reason that Article 13a should not be applied where infrastructure-based competition is possible.

Ofcom's approach is not consistent with Article 13a's requirement to verify the lack of prospective infrastructure based competition before imposing functional separation.

Impact and costs of the measures

Article 13a(2)(c) requires the NRA to set out the various impacts that are likely to result from the measure being adopted, in particular:

“an analysis of the expected impact on the regulatory authority, on the undertaking, in particular on the workforce of the separated undertaking and on the electronic communications sector as a whole, and on incentives to invest in a sector as a whole, particularly with regard to the need to ensure social and territorial cohesion, and on other stakeholders including, in particular, the expected impact on competition and any potential consequential effects on consumers”

The impacts of implementation are made up of a number of different components. There are the direct impacts and costs of implementation, the indirect effects related to the impact on the market as well as the additional costs in terms staffing and structure (such as changes to pension liabilities etc.). The costs associated with each of these elements must be factored in and can be assumed to be significant. BT has detailed these costs elsewhere. However, a significant cost associated with Ofcom’s proposal is the opportunity cost of pursuing a different regulatory approach from that which is likely to be more effective in achieving the stated aims in terms of infrastructure based competition and a transition to an appropriate infrastructure.

The strengthening of the functional separation remedy will further isolate BT’s retail arm from the network business while increasing the relative attractiveness of wholesale access for wholesale operators selling into the retail market. Under Ofcom’s plan for separation these wholesale operators may have greater involvement in Openreach’s network investment processes. As explored above, such a dynamic makes investment co-ordination more difficult because it makes the parties calling for network upgrades independent of the consequences if the services requiring these upgrades fail or if the upgrades are made at the wrong time.²⁵ FTTP may be the right decision ultimately (or maybe not) but timing and the path to the outcome are also important factors.

The deepening of separation remedies in the UK is at odds with the stated objective of Ofcom to promote FTTP and infrastructure based competition.

²⁵ BT’s decision to invest in vDSL in 2009 (instead of FTTP) has, with the benefit of hindsight, proven to be the commercially rational and appropriate decision for two main reasons. The first is that it allowed the timely deployment of high speed broadband to meet demand. The second reason that it was appropriate is that by delaying its FTTP investments (if this is the ultimate destination) BT has reduced the technology risks that it faces as the technology options have matured and are better understood. Costs have also fallen as deployment methods improve and technologies achieve scale in production. The cost of deciding to invest in FTTP today is very different to the cost in 2009 – and indeed the cost in 2018 or 2020 will be very different again.

Evidence²⁶ from functional separation to date is mixed, simpler forms of separation appear to be more cost effective while the more complex the systems the less likely to be effective. This is logical since the investment profiles will shift with greater investment, and for the reasons set out above increased risk is easier to manage in a vertically integrated company.

²⁶ Bruno, Clementina. "Functional Separation and Economies of Vertical Integration in European Fixed Telecoms." HERMES Working Paper n. 03/2012 (2012).

Conclusions

This report has considered the use of deeper forms of business separation on their economic merits and found that there are many risks associated with the use of such measures. Article 13a of the Access Directive was designed by legislators to limit the use of functional separation remedies, and such a limitation is thoroughly justified by the economic considerations associated with the measures. Article 13a is certainly not a policy development tool.

This is inappropriate for a number of reasons. In the first case, technological neutrality is at the heart of the EU regulatory framework – getting the technology or the timing of a technology wrong can have grave repercussions for the investor and the market. It is best left to the firms investing since they have better knowledge of the market and the technologies. A second consideration is that investment co-ordination becomes much more complex where deeper forms of separation have been applied. In a context where the fixed telecommunications industry requires significant investments in new infrastructures and technologies this is an important consideration and one which the legislators sought to provide for in the Article 13a provisions.

One complexity of separation mechanisms is that they are very focused on promoting services based competition. The use of functional or structural separation remedies to address discrimination concerns means that the incentive to invest in competing infrastructure is all but removed, as an access seekers position is at least as good as that of any other operator on the market and without committing funds to capital investment. If the objective of Ofcom is to promote infrastructure based competition, then its proposed remedy is far from an efficient means to achieve this large scale investment; rather, it risks undermining competitive investment in infrastructure and comes with strict health warnings.

This all serves to explain why no Member State in the EU has sought to invoke Article 13a to achieve infrastructure based competition but have instead sought to use less intrusive methods to achieve the same end. It may be that the conditions for imposition of an Article 13a remedy are higher than any NRA has been able to meet thus far; but those stringent requirements look justified. If anything, the conditions to impose separation are becoming more onerous as the new measures to facilitate infrastructure based competition proliferate and harmonise (e.g. the cost reduction directive) which suggests a greater prospect for infrastructure based competition than without these measures and without recourse to Article 13a.

The use of Article 13a in the UK looks particularly problematic since the UK is performing very well across a range of service and quality metrics and is not exceptional other than in its consistent outperformance of most other Member States' outcomes. Effective competition in retail markets results from the current application of remedies. The

conditions required for an Article 13a remedy to be imposed are not met: there is no evidence that existing remedies are not working well in the UK market and, the prospects for infrastructure based competition are good (particularly give the expansion plans of Virgin Media).

Any attempt by Ofcom to use Article 13a will be fundamentally weakened by the lack of an underlying logical justification for the measure: there is an irreconcilable contradiction between Ofcom's proposed remedy and the prospect of greater investment in infrastructure.

The impact of the Article 13a measures on BT's business and on the staff in particular will be considerable and will involve significant direct and indirect costs on the business and the sector.

It is clear that ultimately, Ofcom's proposed remedy is not a reaction to existing remedies failing to achieve effective competition or to prevent persistent competition issues or market failure, but rather an attempt to use Article 13a to give effect to a changed policy direction. This is a misuse of the legislative framework because it is clear that any use of Article 13a cannot be justified in the UK.

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