The limits of competition law and communications regulation

Essential layers of this new infrastructure are either still under bottleneck control, e.g. local telecommunications access, or threaten to fall under such control, e.g. access to top-level Internet connectivity.

Herbert Ungerer

Net neutrality is not simply a competition problem, and viewing it through that lens leads one to the quite erroneous conclusion that no problem is proven to exist: that ‘net neutrality is a solution in search of a problem’. But competition policy is useful in helping us to understand both the limits of net neutrality as a problem, the limits of competition law’s ability to explore the problem and deliver behavioural or structural remedies, and the limits of competition policy itself in the Digital Age. As the net neutrality principle refers to all access providers, large or small, it is a consumer protection measure that goes far beyond standard competition law. As network neutrality extends to all consumer IAPs symmetrically, it is not subject to competition law assessments of dominance, as abuse of dominance is not necessarily an accurate analysis of the network neutrality problem, at least in Europe. Dominance is neither a necessary nor a sufficient condition for abuse of the termination monopoly to take place, especially under conditions of misleading advertising and inevitable consumer ignorance of potential abuses perpetrated by their IAP.

The main justifications for the net neutrality principle are consumer protection, free speech and innovation by those creating Internet content,

1 Ungerer (2000).
2 Language used repeatedly by telecoms companies opposed to net neutrality from 2005 onwards, as documented in Hart (2011).
3 See Marsden (2010), p 1.
4 Some authors questioned the the need to distinguish between degrading and prioritising traffic, as they found that the latter naturally presupposes the former. See e.g. Chirico et al. (2007).
applications and services: the clichéd garage-based start-ups, which include those behemoth content providers Google, Facebook, Microsoft-owned Skype and Facebook-owned WhatsApp. Scholars and policymakers should begin by reading the many analyses by Ungerer, the architect of European communications policy, cited above, to understand how pervasive and enduring bottlenecks in the emerging Internet access value chain have been. He explained in 2000:

Many segments of the new Internet-based economy could develop, driven by the requirement [of] world-wide presence to reach scale economies, towards structures controlled by highly dominant enterprises, quite contrary to beliefs of internet libertarians. Potential anti-competitive behaviour becomes more difficult to regulate & check in the different geographical markets and jurisdictions, the behaviour itself can only be judged on a global level.

It is worth noting that in late 2014 the EC closed a long competition investigation into Internet connectivity, yet ‘found no evidence of behaviour aimed at foreclosing transit services from the market or at providing an unfair advantage to the telecoms operators’ own proprietary content services’.

In this chapter, I relatively briefly outline competition policy’s purpose, referring to the exceptionally rigorous recent analysis of competition law suit-ability to regulate net neutrality by Maniadaki. Having analysed regulatory tools with little chance of success, I then examine what communications regulators actually do: regulating telecoms access based on the UK case study. This provides insights into how difficult net neutrality regulation will prove in practice, a subject to which we return in Chapter 6 and the concluding Chapter 8. I then consider the possibility of platform neutrality or some other form of platform regulation. I consider both competition law as a net neutrality tool and platform regulation only briefly, as my previous books considered these issues in depth. I assess the possibilities of behavioural regulation to overcome some of the consumer detriments identified in nascent net neutrality regulation, and the wider use of behavioural ‘nudge regulation’ in Internet policy. First, I examine competition policy.

5 Ungerer (2013). Ungerer wrote the 1987 Telecoms Green Paper, rising over a four-decade Commission career to become Deputy Director General of DG Competition before retiring in 2011. He is a physicist and economist: 1982 Doctorat in Economics, École des hautes études en sciences sociales, Paris; 1981: MBA, INSEAD; 1973 PhD, Theoretical Physics, Tübingen; 1969 MSc Physics, Techni-
cal University Munich. See www.acer.europa.eu/en/The_agency/Organisation/Board_of_Appeal/

6 Ungerer (2000).

7 IP/14/1089.

Competition policy: origins and purposes

It is worth reminding ourselves why competition policy exists: it was created to tackle the political and economic problems caused by monopolists abusing their dominance of certain trades, largely caused by the award of patronage by their political allies who were in turn funded by bribes or other ‘political donations’. This applied from the Statute of Monopolies 1623, and more recently and particularly inspired the Sherman Act 1890 and Clayton Act 1906 in response to the abuses of the ‘Gilded Age’ of industrial capitalism in the United States in the late nineteenth century.

In Europe, the legal response to the terrible crimes committed by the cartels and monopolies of corporatist Germany and her allies in the Second World War was the so-called ordoliberalism of post-war competition policy, in particular as constituted in Articles 101–106 of the 1957 Treaty establishing the European Economic Community (Treaty of Rome) (now the European Union or EU). Herrera Anchustegui explains that: ‘Ordoliberalism … proposes an alternative method to pure laissez-faire and state planned economy for the better regulation of the market economy by having as goals the protection of the competitive process and individual freedom.’ Vatiero reminds us that ordoliberalism is a political aim to be achieved by the economic means of preventing dominant companies capturing the economic and political process:

The ordoliberal distinction between performance competition and impediment competition may improve the understanding of the European distinction between a ‘dominant position’ and an ‘abuse’ of that position … such an ordoliberal standard leads to a wider concept of dominance that not only includes the economic domain but also considers the impact of private economic power on the political sphere.

Pasquale explains that communications policy is about cultural and political impact as much as economic impact, and that it is essential due to a special exceptional position within political and cultural debate: ‘It is now time for scholars and activists to move beyond the crabbed vocabulary of competition law to develop a richer normative critique.’ He sums up the issue: ‘As robust American competition law fades into a secluded corner of legal history, essential facilities doctrine still remains, for some scholars, a ray of hope for intermediary responsibility.’

---

10 Statute of Monopolies 1623 c. 3, placing on a statutory basis the common law Case of Monopolies decision: Edward Darcy Esquire v Thomas Allin of London Haberdasher (1599).
The brilliant minds who married economic analysis to law and were to dominate antitrust analysis from the 1970s to date (with a brief interregnum under the Clinton Presidency in the mid-1990s) included academics who became practitioners and leading judges. These economists and lawyers pursued the Chicago School approach based on neoclassical economic modelling, which has proved astonishingly adept at demonstrating no abuses exist in markets where the anecdotal evidence appears overwhelming.\(^{14}\) Lessig’s ‘New Chicago School’ paper, incorporating behavioural analysis, was presented in Chicago to the leading judge and scholar of that School, Richard Posner.\(^{15}\) The US move towards a post-Chicago School from the mid-1990s reflects both a wider distrust of the apparent corporate takeover of antitrust, not least in the wave of predatory mergers from the 1980s onwards, as well as the examples discussed in the introductory chapter that demonstrate that *homo economicus* is a poorly motivated actor who often makes decisions that are not only inimical to the wider public interest but even to his own interest.

Particularly powerful models of inferior decision making have been developed in the economics of privacy, where the price of ‘free’, in particular when divulging personal information to marketers and/or government via the Internet, has been exposed. Economic actors are very imperfectly rational.\(^{16}\) Data protection throws up substantial issues for competition analysis,\(^{17}\) and European proponents of the disciplines imposed by economics on competition law now agree with Lamadrid that:

> over the years we have also come to realize that competition law is not the answer to every problem … This is a message in which I have insisted repeatedly in the context of the debate on the role of competition policy in addressing data protection/privacy concerns.\(^{18}\)

Abusive discrimination in access to networks is still characterised in telecoms as a monopoly problem, manifested where one or two IAPs have dominance, typically in the last mile of access for end users.\(^{19}\) Even if platforms did compete in, for instance, heavily cabled countries, there would remain ‘n-sided’ market problems in that there is no necessary direct (even a non-contractual) relationship between innovative application providers and IAPs, so that platforms may set rules to ‘tax’ data packets that ultimately impoverish the open innovation value chain, and so ultimately cause consumer harm.\(^{20}\) If you are a Korean

---


\(^{16}\) See Fatas *et al.* (2013).

\(^{17}\) Costa-Cabral and Lynskey (2015).

\(^{18}\) Lamadrid (2015).

\(^{19}\) I argued that the real problem lies in the ‘middle mile’ of interconnection, in Marsden (2010).

game developer, you do not know BT’s traffic management policies. The archetypal garage start-ups such as Facebook (founded 2003) and YouTube (founded 2005) would have had less opportunity to spread ‘virally’ across the Internet, as their services would be subject to these extra costs. Many commercial content providers, such as Google, use CDNs and other caching mechanisms to accelerate the speed of delivery to users, in essence reducing the number of those ‘hops’ (see Chapter 3). Content is therefore already delivered at different speeds depending on the paid priority the content provider assigns to it, but not on the IAPs’ policies.

**Maniadaki on competition and net neutrality**

Maniadaki provides a magisterial examination of discrimination by termination monopolists in Internet access, explored from a competition law perspective. She does not consider illegal content filtering (for copyright violation, sundry criminal law matters, national security), nor does she enter into broad debate as to whether *ex ante* or *ex post* intervention is more effective. She focuses on single-company dominance (Treaty of Rome Article 102 rather than Article 101 cartel) violations, given that most of the potential abuses highlighted are carried out by a single access provider, whether mobile or fixed (telecoms/cable providers). Her chapter 3 performs a far more complete dismantling of competition law’s claims to address the main net neutrality claims. Chapter 4 goes to the heart of the tension between an *ex ante* principle founded on innovation and consumer protection and her preferred competition law lens for inquiry: the ‘Inherent Potential and Limitations of Competition Law in Protecting Net Neutrality’. She discusses at length the issue of what she terms pluralism and diversity, European Commission new media policy ‘weasel words’ for the enormous flourishing of content made possible by the Internet, which we should note is the most powerful interactive communications platform in history. It is clear that pluralism, a diversity of views, is a valid reason to impose conditions on, for instance, mergers under EU law, an inheritance from newspapers and television stations. It is rather inadequate, as she acknowledges, for the Internet’s variety of content, applications and services, in particular as privacy is as important to consumers as is free expression in the regulation of net neutrality, a subject of increasing interest to regulators on both sides of the Atlantic.

---

22 Maniadaki does, however, refer to those vital standards documents produced by the Internet Engineering Task Force, the Request For Comments (IETF-RFC), which are rather closer to setting out physical laws than anything lawyers encounter in court.
Her chapter 5 then returns to more familiar territory for competition lawyers: definition of relevant market and market power assessment. Here again the tension between a legal mechanism designed to protect all consumers interacting with competition law, which only regulates dominant actors, comes to the fore, particularly given the notorious difficulty in proving collusion between entities in markets such as mobile telephony. Maniadaki makes a strong plea for better use of behavioural analysis in this case and more broadly, based on the Microsoft cases and the merger cases involving MCI with successively British Telecom, WorldCom, Sprint, Verizon and succeeding interconnection cases. It is particularly noteworthy in a meticulously researched work that she identifies such a body of economic and technological literature which is less well known to the competition law academy. Behavioural analysis is a subject to which she returns in her final chapter, and which I consider in the final part of this chapter, dealing with platform regulation.

Mnadiaki considers net neutrality violations as refusal to deal, as for instance in infamous cases where the access providers block access to VoIP or IM applications such as Skype or WhatsApp. Analysis here takes on the argument between David Evans and Nicholas Economides, economics professors with very different views of the imperfections of Internet access markets and the manner in which net neutrality leads to innovation. In her chapter 7 she explores discrimination and unfair pricing as aspects of the problem, though concludes that, however open-ended the case law may be on the potential for abuses to include, for instance, over-pricing for so-called ‘fast lanes’ on the Internet, ‘a large proportion of practices … would generally fall outside the scope of competition law’. Analysts who find that their preferred legal approach is largely useless should not, however, despair. Maniadaki skilfully establishes the limits of competition law to date, as well as offering the possibilities to extend that corpus of legal application to make it more relevant for dynamic digital services. It will not be easy for competition lawyers to move from widgets to bytes, but without such a transformation of their skillset, they will be excluded from Internet law debates such as that involving net neutrality.

Mnadiaki has performed an extraordinary service, which all competition lawyers should study. She has shown how much competition law can address the critical issue of net neutrality (not much) and how much it needs to transform itself to have relevance for digital services markets (a great deal). She also shows that the tools of competition law are used a great deal in informing

24 Ibid., pp. 179–188. The academic literature in that field is particularly sparse, although she located an obscure 1997 paper by Kenn Cukier, and later more mainstream work by Giovanetti (2015), David (2001), and Clark and Claffy (2015).

25 Evans is in favour of self-regulation by markets; Economides (2015) thinks that regulation is needed due to players’ gaming of n-sided markets. See Maniadaki (2015), Chapter 6.

both sector-specific communications law, as well as the specific regulation of net neutrality. Maniadaki herself is an official in UK communications regulator Ofcom, and it is to Ofcom’s regular task of regulating communications networks that we now turn, to see how economic regulation works in practice.

**Telecom regulation: the UK case study**

To understand UK communications regulation, we need to examine the market structures and legal challenges to regulation of the infrastructure. I examine first fixed then mobile regulation, including fixed-to-mobile termination, which we will see is vital to the communications ecology and explains many of the attempts to breach net neutrality by blocking rivals to the incumbents.

**Fixed network regulation**

I now briefly explain the fixed network market of UK communications. It is characterised by wholesale duopoly between the Virgin cable network (owned by US investor John Malone via Liberty Global) and British Telecom (BT), the former domestic monopoly wholesale network (telco) in the entire UK except the city of Kingston-upon-Hull, in fixed local (‘last mile’) access to telecoms and thus Internet communication.

The UK was a notable early example in the wave of neoliberal privatisations of communications. BT was privatised in 1984, and is the successor to Post Office Telecommunications, itself the successor to the nationalised telegraph companies, to which BT traces its origins in 1846. The nationalisation of communications from the origins of telephony in the 1870s to the 1980s is a feature shared with almost every country in the world outside the United States (UK colonial monopoly Eastern Telegraph Company, renamed Cable & Wireless in 1932, nationalised in 1947, had about 50 national monopolies itself in former colonies and protectorates including the West Indies, India, Panama, Bahrain, Hong Kong, Macau). The UK government sold all of its interest in BT in three stages over the period 1984–93, whereas most major European former monopoly telcos retain the government as the largest shareholder: for instance, in 2016 22 per cent in France Telecom (FT; since 2006 branded as Orange) and 16 per cent in Deutsche Telekom. An unusual historic exception is Telefónica de España, formed by US multinational IT&T in 1924, which came under partial state ownership in the fascist period from 1945, but was wholly

27 See www.btplc.com/Thegroup/BTsHistory/.
29 Hills (2002).
privatised in the period 1987–97. In 2014 it briefly controlled Telecom Italia, amongst its many foreign subsidiary interests. It is noteworthy that on completion of the £12.5 billion BT purchase of the largest UK mobile network EE, Deutsche Telekom (largest shareholder the German government) became BT’s largest shareholder with about 12 per cent of its shares.

A radical UK departure from standard market structure is that there were five mobile network operators (MNOs) until 2011, but none of them was the former telecoms monopolist. BT halved its net debt from £27.9 billion in 2001/02. The incumbent had become severely financially compromised due to its international expansion, notably its Concert joint venture with AT&T, loss-making European subsidiaries and its BT Openworld content platform (it also had to divest its yell.com directory business to venture capitalists for £2 billion). This included the demerger of BT’s wholly owned mobile subsidiary O2 in 2002 (bought by Telefónica for £18 billion in 2005), accompanied by a hugely discounted rights issue. This fragmentation of mobile and fixed operators, and minority position for the cable operator, means that there is no integrated large investor in telecoms (unlike with Deutsche Telekom in Germany, Verizon and AT&T in the US, FT/Orange in France and so on).

It should be noted that BT’s pensioners comprise over 300,000 individuals, the largest private pension in the UK – the second largest is for universities with 200,000 individuals. Telco pensioners and the legacy funding of their pensions are a vital element in regulation, together with maintenance of the local access lines – the price of broadband is relatively trivial by comparison. In 2014 the BT Pension Scheme deficit was estimated at £7 billion on assets of over £40 billion, with a 16-year plan in place to reduce that deficit, including £1.5 billion in 2015. (By contrast, in 2014 the University Superannuation Scheme deficit stood at £5.3 billion on assets of £41.2 billion.) To give a sense of scale, BT’s revenues in 2015 were approximately £17 billion. BT’s pension obligations on privatization under Telecommunications Act 1984, s.68(2) included a Crown Guarantee to back the pension fund should BT become insolvent.

This was alleged by an anonymous complainant in 2006 to be illegal state aid breaching Article 87 of the Treaty of Rome (now Article 107), confirmed in

References

31 Bela and Trillas (2005).
35 Universities Superannuation Scheme (2014) Actuarial Valuation March 2014, available at www.uss.co.uk/Actuarial%20Valuation/ActuarialValuationMarch2014.pdf. University professors aged 45 in 2014 are expected to live to 91.2 years (male) and 93.6 years (female).
36 Jackson (2015).
2009 by the European Commission and then by the European Court of Justice after litigation that was not concluded until 2014.38

Why do pensioners matter to net neutrality? If you intend to regulate access providers as regulated actors, you had better understand what their motivations are. Such cash deficit payments by BT affect the wholesale price of broadband to its competitors, with an Ofcom inquiry in 2009–10 explicitly focused on that impact.39 Broadband access involves the historic legacy of pensions, of utility and common carriage regulation, and of the pensioners, widows and families from the nationalised monopoly. Regulators may be accused of considering net neutrality a Friday afternoon job (five minutes before going home), and policymakers should realise how it is linked to what happens from Monday to that point on Friday.

UK broadband penetration was under 5 per cent of all households in 2003, when it was already ubiquitous in South Korea, and well over 10 per cent in the Netherlands and the United States. It is now equivalent in penetration, but not speed, with more advanced economies. The average download speed is over 20Mbps, though upload speeds were under 2Mbps in 2013 for at least 70 per cent of the population.40 The download speed is about average for the advanced economies in Western Europe.41 DOCSIS3.0 cable customers averaged over 30Mbps (34.9Mbps), and VDSL (very high bit rate digital subscriber line) customers 43Mbps. There is very little fibre to the premises. BT trialled vectoring from late 2013. Maximum VDSL speed is therefore in the 40 to 50Mbps range, with cable in the 30 to 60Mbps range. BT set a completion date of spring 2014 for the Openreach commercial roll-out of FTTC/FTTP (fibre to the cabinet/fibre to the home) products, with 24 million premises within its fibre (FTTC/P) footprint from 1,725 exchanges. The UK has 26.4 million households and around 4.8 million businesses (many micro-businesses are home based), which is circa 30 million premises. Openreach fibre in 2013 passed 63 per cent of UK premises, 30.8 per cent of all UK exchanges, after five years of 300,000 premises passed per month, at £131 per premises passed (£2.5 billion/£19 million).42

The remaining households depended on the government subsidy of BT’s extended fibre roll-out and other means – BT is the only fixed broadband supplier

40 Ofcom, Average UK broadband speed continues to rise, 2013.
42 Ferguson (2013). BT claims 1.7 million customers for FTTC/FTP, see BT (2013) First Quarter results.
to most of these households. State-subsidised non-commercial roll-out is subject to government subsidy and only one supplier is qualified to provide roll-out – the former monopolist BT. The first tranche of UK government state aid to BT was delayed, only being approved by the European Commission with amendments to allow for greater competition where feasible, resulting in contracts signed in 2013.43 Significant concerns have been expressed, including by both parliamentary audit bodies, that BT was reimposing a rural/semirural monopoly with the government subsidy of £1.2 billion.44 The government’s Broadband Delivery UK (BDUK) office’s initial aim was to reach 90% of the country by the end of 2015 (with the last 10% having a download speed of at least 2Mbps). The word ‘nearly’ was added in front of the 90% target (i.e. to allow it to slip into 2016) and an extra £250 million was set aside to push the end goal out to 95% by 2017.45 The government also confirmed that ‘superfast’ (VDSL) broadband would cover 88% by end-2015. BDUK put out a new tender in September 2013, seeking ‘as many suppliers as possible’ to help it spend £250 million to extend fixed line broadband coverage to 95% by 2017 (99% by 2018 including wireless where other companies are active in a subsidised roll-out).46

There is some competition in the retail and resale DSL (Digital Subscriber Line) market, with two main mass consumer resellers of BT’s services in whole or in part: TalkTalk (a cut-price reseller) and Sky (the dominant pay-TV operator via satellite). These compete with BT Retail. Fifty per cent of the UK is cabled by the monopoly cable provider Virgin (US-owned), though only about 19% of the market subscribes to cable broadband. In September 2015 the market for broadband lines was:

- BT Retail: 7.88 million retail broadband subscribers (33% of the market)
- Virgin (Liberty Global): 4.63 million (19%)
- resellers of unbundled BT lines (mainly TalkTalk and Sky): 8.8 million fully unbundled, 1.1 million shared unbundled and 1.85 million BT Wholesale operated lines
- total of 11.75 million BT lines branded under other resellers (48% of the market).

43 IP/12/1244 and C(2012) 8223 final, State aid SA.33671 (2012/N). In particular, the EC drew attention to the need to ensure regulated wholesale pricing, supervised by Ofcom. See Broadband Delivery UK (2012). Paragraph 52 is the most relevant and states (in part) that subsidised schemes have an ‘obligation to allow effective wholesale access to all parts of the subsidised broadband infrastructure … Where the supplier operates in the downstream markets it is also required to supply the upstream wholesale inputs on an equality of access basis to its own downstream retail divisions and to competing communications providers. This requirement therefore ensures that there is no discrimination in the supply of key wholesale access.’


45 Jackson (2013a).

46 Jackson (2013b).
Disagreements over BT’s wholesale pricing from 2013 resulted in 2016 in a full reference to the Competition Appeal Tribunal (CAT) on ‘virtual unbundled local access’ (VULA) lines. The CAT will report in autumn 2016.

The two fixed wholesale urban operators – Virgin Media, the cable TV operator, and BT – become one in the more remote parts of the UK that are not cabled, but which include some urban areas such as Fulham, only four miles from Aldwych, the centre of London. This is in large part because of the weakness of cable TV given the monopoly over live English Premier League (EPL) TV football broadcast rights held by Sky (controlled by Murdoch) in 1992–2013. BT bought some of those rights (2013–16 and 2016–19 contracts) to offer a bundled broadband–IPTV sports package to compete with Sky. Virgin resells both companies’ football rights. As it matures, the DSL market is characterised by increasing oligopoly: bundled service offers with little real consumer choice except in the further bundle of premium TV – notably exclusive football – channels. Consumers can now buy bundled TV/broadband offers from all four main operators. The IPTV offer is zero rated and is not included in the prevalent monthly data caps.

The perceived erosion of revenues from fixed line telephone calls, lost to mobile and to VoIP offers (especially for the previously vastly profitable international call market), has led fixed IAPs to charge more for line rental once that was liberated from regulatory control in the 2000s, with Ofcom stating that ‘the basic fixed line rental fee has risen by an average of over 25% in real terms since 2010’. While wholesale line rental has fallen over the period, retail line rental has increased, subsidising broadband offers. This disadvantages the (mainly) older landline-only customers, of whom 69 per cent are over 65 and who make up about 10 per cent of BT OpenReach’s user base of fixed line customers, who are also poorer, as Ofcom explains: ‘[Poorer] households (over half of landline-only homes fell into this category)’. The cost of broadband service (including line rental) from the major four IAPs varied in June 2015 from £21.49 to £34.49 per month, depending on IAP, line speed and monthly data cap.

Average usage was accelerating with consumption of real-time video, up from 17GB/month in 2011 to 82GB/month, a 41 per cent increase in the year to 2015. This usage is split between relatively low-volume downloaders with

47 Competition and Markets Authority, CAT refers superfast broadband price control appeals to CMA, 2016.
49 Ferguson (2015).
50 Ofcom, 12th Annual Communications Market Report, p. 277.
51 Ibid., p. 315.
speeds below 40Mbps (typically ADSL – Asymmetric Digital Subscriber Line) at 75–100GB/month and much higher volume downloads by higher speed users (140–160GB/month).\textsuperscript{52}

\textbf{Mobile network regulation}

Commissioner Vestager summarised the state of EU telecoms competition in 2015:

In contrast to the US, a pan-European telecoms market does not yet exist – even though we have far fewer network operators in the EU than in the US. In Europe, we have around 35 mobile network operators at group or company level. The two biggest players are present in eleven and twelve EU countries respectively. The four biggest operators serve around 60\% of EU subscribers … while the biggest companies in the EU are present in multiple territories, consumers in each territory are captive in national markets. They cannot access the same offerings as their neighbours across national borders.\textsuperscript{53}

The UK mobile market was traditionally vied for by duopolists Vodafone and O2, but in 2011 two smaller later entrant GSM (Global System for Mobile Communication) operators, owned by France Telecom (branded Orange after the successful UK-founded Hutchison- owned brand of the early 1990s) and Deutsche Telekom, merged to form the ludicrously named Everything Everywhere (EE), which network shares its network with 3G entrant Three. In 2016 Three was trying to merge with O2, reducing the number of players from five in 2011 to three, though with opposition from the new pro-consumer Chief Executive of Ofcom\textsuperscript{54} and a Phase 2 investigation by the newly vigorous DG Competition Commissioner.\textsuperscript{55} There are three wholesale mobile networks, which in 2013 introduced metropolitan LTE (Long Term Evolution), several years after advanced markets such as Sweden and Germany.

Note that mobile shares post-mergers once BT acquired EE are BT 29 per cent and Vodafone 23 per cent.\textsuperscript{56} BT’s fixed share rose to 36 per cent.\textsuperscript{57} The Three mobile market share would have risen to 45 per cent had it been permitted to merge with O2 (though this was not approved by DG

\textsuperscript{52} Ofcom, ConnectedNations, 2015, p. 23, Figure 13.
\textsuperscript{53} Speech on 2 October 2015 Competition in telecom markets.
\textsuperscript{54} Rushton (2016).
\textsuperscript{55} Speech by Margrethe Vestager: Competition in telecom markets.
\textsuperscript{56} Thomas (2015).
\textsuperscript{57} The merger of BT and EE was referred to a Phase 2 investigation by the CMA on 9 June 2015, and will report by 18 January 2016. See Competition and Markets Authority, BT Group/EE merger inquiry, 2015.
Network neutrality

Competition, whose Phase 2 investigation into Three/O2 concluded in May 2016.\textsuperscript{58}

**Network interconnection**

Just as Internet content must ‘pay’ to transit or directly interconnect (unless its network is so large it can peer) on the access network, so too must telephony. The exception is obviously telephone calls between two subscribers to the same mobile network within the same country, described as on-net calling. It is expected that there are both efficiencies in routing over the same network and incentives to offer lower prices for competitive networks, to encourage users to concentrate their ‘friends and family’ on the same network. For many mobile monthly subscribers, it is effectively free to call on-net. Calls between networks are described as ‘off-net’, and here pricing can be set by the network or regulated if pricing is too high. In fixed network calling, the former incumbent was obliged to offer the same interconnection prices to all its competitors, which became described as the most exotic-sounding process in telecoms: RIO. This actually means the Reference Interconnection Offer, and is only exotic in accounting terms. This is not particularly economically controversial, but litigation over two decades by the mobiles has delayed setting mobile off-net prices at the same level as fixed calls. The RIO level is more important for mobile because in Europe and most other regions, the system of charging is Calling Party Pays (CPP). This means that when a user makes a call, it is her network that pays the network that transits (if any) and the receiving party network. This makes the receiving network a monopoly with little incentive to lower costs except for reciprocal value. While that might put cost pressures on calls between mobile networks of near-equal size, it certainly does not for small market-entrant mobile companies. It also does nothing for fixed networks who have to offer RIO regulated rates, which in the late 1990s were 30 times cheaper than the wholesale rates the mobiles offered the fixed operators (and each other). Over the period since 1995, when mobile penetration first exceeded 10% of the UK adult population, this distorted the market significantly.\textsuperscript{59} The greater part of this mobile growth took place in the period 1998–2000 with penetration increasing from 25% to 73% in two years (Internet use grew from 14% to 27% in that time).\textsuperscript{60}

Markets for both mobile and fixed telephony are a relatively stable split, which some have described as oligopoly. This obscures the fact that the mobile

\textsuperscript{58} COMP/M.7612 Hutchison 3G UK/Telefónica UK.

\textsuperscript{59} OfTEL, Mobile Numbering Consultation, 1996.

\textsuperscript{60} OfTEL, Consumers’ use of mobile telephony, 2002.
companies in each sector compete for consumers, but receive income from their higher termination rates charged to fixed operators. This is strongly challenged by the fixed operators, especially the regulated former monopolist BT. It must be borne in mind that the UK is a unique market in Europe and globally, as the incumbent telco does not own a mobile operator. In return, mobile networks claim that BT overcharges them for the fixed lines they need to transport their mobile traffic – bear in mind that a mobile network is actually a fixed network with 8,000 (or so) mobile towers for local connectivity attached to that network.

**Mobile termination regulatory battles**

The Open Internet element of Regulation 2015/2120 will be examined in Chapter 4 and forms the central element in this book. Note the context: it will operate alongside the mobile roaming element, politically a much greater prize for the European institutions that will reduce international roaming charges within the European Digital Single Market by 2017. International roaming charges had already been significantly reduced in the period after the previous Regulations in 2007 and 2012. Vodafone had appealed the 2007 Regulation to the General Court of the EU. As Recital 22 of the 2012 Regulation pithily put it, ’retail and wholesale roaming prices are still much higher than domestic prices and continue to cluster at or close to the limits set by Regulation (EC) No 717/2007, with only limited competition below those limits’ – in other words, mobile companies were still screwing their customers on international roaming.

---

61 An excellent comprehensive analysis of fixed and mobile competition is provided in Competition and Markets Authority, BT–EE Provisional findings report, 2015.


63 Regulation (EU) 531/2012.

64 Case C-58/08 Vodafone and Others v. Secretary of State for Business, Enterprise and Regulatory Reform.
International roaming is, however, an ‘affluenza’ type of regulatory reform for the cross-border traveller (and European parliamentarian), compared to the much larger cost to consumers of national mobile roaming. In 2015 Ofcom announced that national regulated prices would be reduced below 0.05p by 2017, a 98 per cent decline since 1995 when price regulation was first introduced.65 This enormous loss of per-minute revenue is compensated for by the ubiquity of mobile phones in 2016 and the substitution of mobile for fixed calls – but also by attempts to cling to text and international call revenues by some MNOs trying to breach net neutrality and block rival services such as Skype and WhatsApp, as we have seen. Around 10 minutes of calls are made from mobiles for every 4 minutes of calls made to them, showing in part the market-distorting effect of their high CPP prices (and the convenience of calling from mobiles compared to landlines).66 Mobile text and voice revenues per UK user fell by 60 per cent in the period 2008–13 due to this regulatory regime.67 The next threat to mobile revenues is the elimination of texting revenues, as WhatsApp and other IM clients are used ubiquitously, which is where mobile termination becomes directly a net neutrality issue. Why? Mobiles blocked WhatsApp, Skype and others throughout this ‘rate war’ with their regulators.

The MNOs had maintained the fiction that on-net prices could be almost free but off-net prices 30 times higher than for fixed networks – an obvious nonsense. This is shown by the US experience, where almost uniquely the Receiving Party Pays (RPP), meaning that the mobile companies have every incentive to maintain prices at the level of fixed operators, which they do. The extreme version of this is shown at the Canada border, where you might have paid a fraction of a cent per minute on the US side under RPP, but 20 cents or more on the Canadian side under CPP. Such huge differentials have led economists such as Dewenter and Kruse to argue:

implementing RPP instead of CPP would not reduce penetration rates, irrespective of whether a country’s penetration process has just begun or has nearly reached saturation levels. Moreover, we expect that adopting RPP instead of CPP seems to be a possible way to reduce the market power of terminating networks as well as of mobile termination rates.68

However, few nations have done so and the possibility within the EU seems vanishingly small, especially as regulation has driven prices towards rough parity between mobile and fixed.

---

66 Ibid., Annex 3, p. 42, Figure A5.3. High-value subscription callers proportionally make more calls than receive them; pre-pay low-value callers receive more calls than they make.
67 Ibid., Annex 3, p. 46, Figure A5.5.
Figure 2 BEREC mobile termination rates 2004–15
Regulating the mobiles: delay, degrade, confuse

Ofcom is obliged to follow the relevant EC Recommendation on market definition,\(^69\) to provide consultation and gather evidence according to set processes, perform market tests in accordance with recognised economic modelling\(^70\) and to notify the EC of draft decisions. A new Recommendation on Market Definition was issued in October 2014,\(^71\) replacing the previous version of 2007, itself superseding the original 2003 Recommendation. In addition to any potential EC hurdles, it also has to offer its regulatees the opportunity to challenge decisions before domestic and EC courts. This can become extremely protracted (and tedious) with the fixed-to-mobile termination saga taking decades in its various episodes. I examine first UK appeals against regulatory decisions, then those at European level. Do not be surprised if net neutrality regulation follows the same agonised litigation path between now and 2025.

UK regulator Ofcom had been tied up in litigation by MNOs almost continuously throughout the twenty-first century, with ‘delay, degrade, confuse’ the results of the continual consultation, litigation and settlement. Note that the three major mobile companies (in the UK since 1992 there have been four mobile companies with the exception of the late 2000s when there were five) employ the best competition lawyers in London to fight Ofcom and the other regulators, with one former regulator expressing the view that Ofcom ‘has to fight the entire London competition Bar’ (specialist barristers).

A new epic commenced in 2005 as the previous version ended: Ofcom consulted, a regulation was set in March 2007, it was referred to the CAT in 2007, then to the Court of Appeal in 2009, with a decision in 2010. Meanwhile, the next three-year period began, with a very similar outcome of a visit eventually to the Court of Appeal in 2013.\(^72\) The EC issued a 2009 Recommendation,\(^73\) which the second process followed. All these delays were obviously beneficial to those who gained from imposing higher or lower charges, which made this a multi-million-pound game of litigation. Also note that this meant that – with the exception of 2004 – Ofcom’s legal department and its predecessor spent the entire period 2000–13 fighting the mobiles to reduce termination charges.

\(^69\) Recommendation of 17 December 2007.
\(^70\) The most recent is Recommendation C(2013) 5761.
\(^71\) Recommendation 2014/710/EU.
\(^73\) Recommendation C(2009) 3359.
### Table 4 Mobile termination sagas in the 2000s

<table>
<thead>
<tr>
<th>2000–03 (Oftel)</th>
<th>2005–10 (Ofcom)</th>
<th>2009–13 (Ofcom)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competition Commission inquiry 2002 reports 18 February 2003.</td>
<td>2 April 2009 CAT direction to Ofcom to revise charge control as determined by Competition Commission. Ofcom published revised SMP conditions, took effect 3 April 2009.</td>
<td>Tribunal referred to Competition Commission; Commission agreed with Vodafone and EE not Ofcom.</td>
</tr>
<tr>
<td>7 March 2003 appeal by all four major mobiles to High Court, denied in June 2003.</td>
<td>CAT’s judgment appealed by T-Mobile, Vodafone, Orange and O2 to Court of Appeal. Upheld: CAT did not have power to direct Ofcom to reset the charges for years 2007–09.</td>
<td>CAT’s final judgment appealed by Everything Everywhere, to Court of Appeal. Decision in favour of Competition Commission and Ofcom on 6 March 2013.</td>
</tr>
</tbody>
</table>

---


*b* Oftel, Press Statement Ref 02-01, 2002.


*d* *R (T-Mobile, Vodafone, Orange) v Competition Commission* [2003] EWHC 1566 (Admin) [2003] EuLR 769.
A 2013 Colt Technology Services case before the Competition Appeal Tribunal shed more light on when and how decisions of Ofcom can be appealed. Colt challenged Ofcom’s decision to implement a requirement on BT to offer ‘active’ wholesale services, but not passive infrastructure access, in the Business Connectivity Market Review (BCMR) Statement. Ofcom had reviewed the Wholesale Local Access market in 2010 and imposed limited passive infrastructure access remedies requiring BT to provide residential access to its ducts and poles, but not to its dark fibre. Ofcom imposed less rigorous requirements on business in BCMR, concluding passive infrastructure access remedies could lead to a duplication of investment, discourage future investment, encourage inefficient market entry and disrupt BT’s recovery of common costs by encouraging arbitrage (‘cherry picking’ by competitors such as Colt). The CAT cited observations from two Court of Appeal decisions which ended the mobile termination saga: the applicant (Colt) must show that the decision of Ofcom itself is wrong; if Ofcom addressed the right question by reference to relevant material, any value judgement on its part must carry great weight. CAT noted that Ofcom had conducted a thorough market review process, consulting with all stakeholders, BEREC and the EC, and publishing a number of consultation documents over the period 2011–13, as well as holding meetings. Ofcom’s standing as an expert regulator meant that its value judgement in assessing what would be the appropriate remedies must carry great weight.

If a telco cannot easily overturn Ofcom, although it can delay it, what chance might it have in arguing its case in Brussels? The EU Telecoms Framework Directive Article 7 process allows the European Commission within a month of notification to veto inappropriate market definitions or findings of significant market power (SMP). If the Commission judges that an SMP definition is incorrect, it can issue a ‘serious doubts’ letter, which cause the NRA to rethink and withdraw their decision even before an ultimate veto. Minor issues

75 Colt v Office of Communications [2013] CAT 29.
76 Colt made four complaints that Ofcom made the wrong determination in: viewing passive and active remedies as necessarily alternatives, rather than complementary, and rejecting passive infrastructure access remedies as a result; rejecting passive remedies on the basis of a supposed lack of demand for them; not proceeding from the starting point that it should regulate as far ‘upstream’ as possible; and believing that active remedies were likely to promote innovation and competition at least as effectively as passive remedies. Colt alleged that with respect to the first and third grounds Ofcom had, in effect, taken a prejudicial approach against passive infrastructure access, and not therefore given the issue proper consideration.
77 Everything Everywhere Limited v Ofcom (Mobile Call Termination) [2013] EWCA Civ 154 at [22].
78 Telefónica O2 UK Limited v Ofcom [2012] EWCA Civ 1002 at [67].
79 Conradi and Holley (2014).
are commented upon by the Commission, providing policy guidance on how the Commission intended to handle complex issues in future. Reading these comments became a form of ‘Kremlinology’ or ‘Colasantology’, \(^{80}\) whereby the Commission’s future intentions could be gauged. The 2009 EU Directives modified Article 7 to allow the Commission to oversee the remedies imposed, via Phase 2 letters regarding its reasons that the draft decision including remedies would create a barrier to the internal market, or ‘serious doubts’ as to its compatibility with EU law. BEREC, established in 2009 though not fully operational until 2011,\(^ {81}\) then investigates and must respond within 6 weeks. If it agrees with the Commission, the NRA has two options: to modify or withdraw the measure to take the Commission’s comments into account, or to keep its draft decision. ‘Taking utmost account of the views’ of BEREC, the Commission can then either lift its reservations (which has never happened to date), or much more likely issue a recommendation requiring the NRA to amend or withdraw the draft remedy.

Note that this process applied formally from 2011, but informally only from 2012 once BEREC and NRA processes were put in place. The 28 NRAs, large ones such as Ofcom or small ones such as Cyprus, have to be ready both to respond individually and to coordinate with the other 27 NRAs should an EC letter be issued requiring BEREC response. Allen indicates unsurprisingly:

> Insiders have told us that this is placing a significant burden on the NRAs (which provide the manpower to BEREC); given the restricted duration, the process requires NRA experts to make decisions (about whether they agree with the draft BEREC approach) **within days**, even if the relevant expert in that NRA is on leave or fully busy in their own country. Many NRAs do not have sufficient resources to contribute fully.\(^ {82}\)

In addition to this strain is the problem of BEREC disagreeing with the EC, such as in a case related to mobile termination in France in June 2012, the first real test case for the procedure. This calls for specialists to interpret these decisions in order to work out the relevance for other cases, which has severe resource implications for smaller NRAs, if less so for BEREC and the EC.

If telecoms regulation is bureaucratic and convoluted, how much faster is regulation of Internet platforms which are not IAPs? Not much, if the Microsoft and Google antitrust sagas are a guide. I consider these in the next section of this competition/regulation analysis.

---

\(^{80}\) Named after Cold War Kremlin observations for the former, and the thinking of Fabio Colasanti, Director General of DG INFSO 2005–09, for the latter. I am grateful for the latter description to Alexandrina Dospinescu (née Hirtan), when Vice President at the National Regulatory Authority for Communications (ANRC) of Romania in 2006.

\(^{81}\) Regulation (EC) 1211/2009.

\(^{82}\) Allen (2012) (original emphasis).
Platform regulation: US cuckoos in the European nest?

While Internet companies were considered until recently the ‘goose that lays the golden egg’, European policymakers more recently consider them the US cuckoo in the European telecoms nest. This has to be considered in light of the broader platform regulation debate in Europe, which is taking place in 2017. The enormous importance of the Google case as well as various other issues in the ‘digital platform economy’ affecting such dominant actors as Amazon, Apple and Facebook, are dominating the competition policy debate on both sides of the Atlantic and will grow and grow as litigation follows.83

Microsoft was forced to offer consumers greater choice of multimedia players and web browsers in the outcome of its long-standing competition law case brought by the European Union. As a result, consumers have chosen a variety of multimedia players and web browsers, including the far more privacy-invasive offer by Google, which is itself now considered as great an antitrust target as Microsoft. It is also notable that the limits of such nudging are clear: Microsoft’s dominance of personal computer (PC) operating systems is almost as great in 2015 as it was in 1995 when the European case commenced, though dominance in mobile operating systems now belongs to Google. Nudging was so familiar to Internet regulatory scholars in the late 1990s that it came to be termed the ‘new Chicago School’ by Lessig,84 recognising imperfect information, bounded rationality and thus less than optimum user responses to competition remedies, driven by insights from the Internet’s architecture and Microsoft’s dominance of computer platform architecture. Thus recent ‘nudge’ concerns by regulatory scholars and competition lawyers echo 1990s concerns by Internet regulation specialists. It is a mark of Internet regulation’s specialisation in Europe, and mainstream regulation and competition law’s failure to fully absorb the insights of that scholarship, that in 2016 the debate surrounding nudges and privacy affecting competition outcomes has yet to reinvent the 1990s wheel of nudge limitations.85 By not learning their Internet regulatory history, competition and regulation are obliged to repeat the lessons of the 1990s Microsoft case.

Maniadaki’s work offers not only conclusions, but also ‘Extensions’, in particular the issue of so-called ‘platform neutrality’, the telecoms companies’ revenge on Facebook and Google in which they argue that network neutrality should be accompanied by similar neutrality for the software platforms which run on the networks – and which are the largest source of consumer traffic for those congested networks. The growth of video, home-workers, industrial

83 Brown and Marsden (2013b).
84 Lessig (1998).
85 See Baldwin (2015) and citations therein.
applications known in Europe as Industry 4.0, and CDNs with interconnection disputes, raises an ongoing issue. As platforms for these various new services interact with monopoly access providers, should platform neutrality also be regulated, and if so on what terms and when? The idea that the bottleneck for physical access to infrastructure should be extended to the ‘hyper giants’ of Google and even Facebook is considered by Maniadaki in some depth.

Nudge examples abound in net neutrality and software platforms. The architecture of the Internet, and the manner in which companies can influence that to mould user behaviour, was well understood by the founders of Internet regulation. Government regulatory response to companies’ abuse of user behaviour itself drives the subsequent choices made by both companies and users. Nudges are thus applied by companies against users, as well as by governments against companies. In advanced cases, it is governments inducing companies to offer consumers a means of nudging towards different platform outcomes.

A further instructive anti-nudge example is the use of cookies in web browsers. The European law on privacy (Directive 95/46/EC on data protection) was designed to offer users an ‘opt out’ of receiving cookies when browsing websites. In fact, however, the lack of enforcement by various EU Member States and the dubious legality of the US negotiated ‘safe harbor’ for data processing companies such as Microsoft, Yahoo and Netscape, meant that users’ choice was severely constrained by the architecture of the WWW and its prolific use of cookies. Not accepting cookies meant not accessing all commercial and many other forms of web page, with ubiquitous and default cookie downloading a feature (or bug) without which web surfing is all but impossible. European law has been circumvented by both a persistent architecture of control by WWW software developers driven by the commercial advertising imperative of web design, and by the signal lack of enforcement of cookie laws by European regulators. Nudging US-led commercial operators in the direction of cookie choice failed miserably. The continued two-decade pretence that it did not is a salutary lesson in how to learn from past regulatory failures, which will have critical long-term consequences for the architecture of the Internet and of the now massive companies that dominate electronic commerce and advertising.

The strategies of Google, Amazon, Facebook, Apple (the so-called ‘GAAF’ dominant online retailers often described as the Big Four, or ‘Frightful 5’ if one includes Microsoft, though noting most of Apple’s revenue stems from hardware sales) and others are built on privacy-invasive architectures which are correctly contemptuous of lack of enforcement of European law. In the face of this commercial success where platform markets tip to a single dominant firm,

---

87 Manjoo (2016).
it is unsurprising that IAPs are adopting increasingly privacy-invasive behaviour to try to control their users’ web habits and therefore commercial revenues from those habits.

Users have adapted to behavioural architectures on the Internet and rejected certain constraints placed by companies and even regulators. In particular, dominant gateway companies have tried to shape and react to the effects of user behaviour throughout Internet history. On occasion, users have outflanked Internet companies, as for instance in the case with which users decided to step outside walled gardens in the mid-1990s to adopt their own choice of navigation around the Internet. In rejecting the ‘AOL model’ of walled garden, users in fact adopted an approach that was to become dominated by Google in both search and associated services such as news, maps and shopping. In 2016 the Anglophone country dispute is no longer between IAPs such as AOL (Vodafone through its Live and 360 services, Telefónica through Endemol, and British Telecom through Yahoo! and Openworld tried similar vertical integration) and open search using Navigator and Explorer browsers, but between Google-led open search despite its vertical integration, and the Facebook-dominated closed environment.

Nudge solutions have been derisory in coping with GAAF dominance, as reflected in the reaction to Commissioner Almunia’s attempt to settle the Google antitrust case. Nudging has not succeeded in preventing the growth of Amazon’s Kindle proprietary grab for books, Apple’s iTunes multimedia store (though it is constrained by strong vertical lock-in for Apple hardware), Google’s control of the advertising industry, eBay’s auction control or Facebook’s growing social media monopoly. All of these platforms were subjected to competition analysis through either merger or single company dominance cases (known in Europe as Article 102 cases after the relevant legal provision in the Treaty of Rome as amended). All therefore follow Microsoft down the tried and trusted route subject to traditional competition law analysis and all have succeeded in emerging intact. Privacy invasions have led to greater regulatory control specific to that consumer harm, but the combination of privacy and competition concerns has not been achieved. Both US and European regulators are now examining the case for such analysis, though the separation of consumer harm and competition divisions of regulators is a long-standing practice. Any change is likely to be very long drawn out and ineffectual in grasping effective solutions for Internet markets at this stage in their development.

That returns us to the pressing issue of access provider abuse of control of the end user. If competition authorities and their tools of analysis were left to explore any potential problem and solution, we may be left with an assault that leaves us where Windows is ensconced after two decades: with the WWW totally controlled by a few companies each dominant in their own sector, and users only free to choose where they are super-users sophisticated
and motivated enough to explore in the ‘dark web’ or encrypted parts of the Internet. In the same way, the number of users of the open source free Mozilla Firefox browser, alongside Google proprietary browser Chrome, is sufficient to make the Microsoft control of the browser market somewhat limited compared to 2005, but that is at the price of allowing Google to strengthen its dominance of search. Nudging Microsoft resulted in Google raising its market power given the dynamics of the Internet environment.

Firefox developed rapidly with over 40 versions released, because it finances its developers by agreeing to dominant search provider Google reinforcing its monopoly by becoming the default search engine for Firefox. Google maintained that deal from 2004 to 2014 and paid well over $1,000,000,000 for the privilege.88 Firefox launched in November 2004 and built a 25 per cent market share in the US by 2010, but this declined to 11 per cent in early 2015.89 This is in part a reaction to the growth of Chrome, launched in 2008, which became the largest PC browser globally (though still trailing in the US), overtaking Microsoft in 2012/13.90 In December 2014 Microsoft-supported Yahoo became the default Firefox search engine – a search facility provided to Yahoo by Microsoft, a return to the former monopolist as Chrome became more powerful. In the US, the market shares of Microsoft, Google and Firefox were respectively 52%, 29%, and 11% in 2015. Default search had been split (52% to 41%) until 2015, but with Firefox reverting to Microsoft-powered search, that returns to 64% versus 29%. Note that many Microsoft users actually changed their default browser from its Bing or Yahoo search to Google, and in October 2015 Yahoo switched back to Google search in the United States.

**Behavioural regulation: nudging net neutrality**

Net neutrality also casts a light on the central issues that are emerging in regulation in a generic sense. Behavioural or ‘nudge’ regulation has become the flavour of the decade since Thaler and Sunstein’s eponymous monograph.91 The use of behavioural psychology insights to observe changes in regulated outcomes from the ‘bounded rational’ choices of consumers has been commonplace in Internet regulation since 1998, the same year Sunstein’s first article on the subject appeared.92 The Internet is a network and a real-time laboratory

---

88 Murphy (2011) reporting that deal as representing 84 per cent of Mozilla’s revenues in 2010.
89 Keizer (2015).
90 These statistics are for the United States, and are inherently unstable as the ‘market’ is for free browsers, and thus they do not measure purchases.
for the distribution and manipulation of information, which is why it is unsurprising that the adaption of that information to affect user behaviour has been commonplace online throughout the history of the Internet. The competition and regulatory aspect of attempts to direct user and market behaviour are therefore another key theoretical perspective uncovered through examples in this book.

Though clearly platform regulation is not a network neutrality issue – there is no physical access network that contracts with the end user – there are behavioural insights borrowed from the net neutrality debate that can be applied to those dominant firms, notably the extreme level of consumer (and much legal) ignorance of the manner in which these companies trade personal data and network for advertising dollars.93 UK competition authority chair Lord Currie explains:

At the heart of behavioural economics is the insight that ordinary consumers do not behave as the so-called perfectly rational consumer of neoclassical economics … Thus, for example:

- we have limited ability to process and compute information. Faced with complexity we often focus on just a subset of the product’s characteristics and so make bad decisions
- we are very poor at relative probability assessment, not surprisingly since a lot of us don’t understand percentages, and we tend to over-estimate the likelihood of small probability events
- our decisions are often not neutral with respect to how choices are framed: thus we will be unduly influenced in our choice of sofa by notices that say it has been discounted from £1,000 to £500 compared with if it had simply been priced at £500 at the outset
- we are time inconsistent and exhibit hyperbolic discounting, a lack of self-control and over-confidence. So we will definitely give up smoking and drinking but tomorrow, we won’t go overdrawn, and we will go to the gym regularly
- we care more about losses than gains and so can become inert. For example, fear of making a bad decision by switching outweighs the fact that we might well gain by switching, or makes us over-cautious in our choice of mobile package
- we care about more than just profit maximisation, and value fairness as well.94

Though it would be as inappropriate for Maniadaki to conclude that case, as it was for the retired Competition Commissioner Almunia who failed

93 This has led to a recent flurry of consultation by the UK competition regulator. See Competition and Markets Authority, Online reviews and endorsements, 2015; Competition and Markets Authority, Commercial use of consumer data, 2015.
spectacularly to remedy Google's dominance, she offers interesting thoughts to start the debate, on non-price competition, information failures and behavioural biases, network effects, economies of scale and two-sided markets, innovation and burden of proof.

Ed Richards of Ofcom in 2010 considered ‘nudging’ and transparency in net neutrality:

Whether and to what extent the emerging discipline of behavioural economics provides a basis for solid regulatory practice is not yet clear, but it is obviously an area that we should explore if we are serious about ensuring that consumer choice remains central to the way we address these issues … even if consumers have access to transparent information, they need to understand how traffic management practices will affect their day-to-day experience of a service and be able to assess which product best meets their needs. This may require substantial effort and time, particularly if the information provided about traffic management practices is fairly technical.95

He also admits the limits of a transparency approach in consumers’ lack of rational self-interest:

The behavioural economics literature highlights further reasons why consumers may find it difficult to use information to compare products effectively. In particular, studies have shown that consumers can find it difficult to take into account fully different aspects of products when making a decision. For example, in an experiment on purchases made on eBay, researchers found that participants tended to ignore shipping costs, even when they were clearly displayed. This meant that was little pressure on sellers to keep shipping costs down. This is an example of the ‘limited attention’ bias. In this context, what is needed is for the industry to embrace the spirit as well as the letter of the new requirements for transparency and explanation.96

I explore in Chapter 6 the extent to which that embrace was self- or co-regulatory, as well as the spirit and letter of the guidance to consumers. It should be added that if you do not tell consumers what net neutrality is, they will not be very effective in identifying breaches! Cooper and Brown cite the reaction of consumers who had been educated about IAP traffic management: ‘Do they do that? Oh the bastards! I can’t believe it! Why do they need to do that?’97 Behavioural nudging might be effective if net neutrality became as political as it is in the US. There is no sign of that outcome when the UK government refuses to even use the term, as we will see in Chapter 6.

95 Richards (2010).
96 Ibid.
Limits of competition law in net neutrality analysis

I now summarise the conclusions one can apply from considered examination of competition law in this field (to explain all in detail would require an update to Maniadaki’s book). They are as follows:

1. Dominance: it is very difficult to assess long-run competition to local monopoly (incumbent wholesale network) or duopoly (with cable), MNO cartels or Tier 1 Internet peering cases (examined next in Chapter 3). These markets betray behaviours more suited to utilities with natural monopoly characteristics than perfectly competitive markets. MNOs in Europe were assigned by government and remain a regulated cartel.

2. Collective Dominance: there are very specific layers to the problems in the Internet’s ecology, with many net neutrality breaches by smaller local monopolies, including wired and wireless data caps, and anti-competitive throttling of Skype. It is clear that the entire class of IAPs have incentives to discriminate, rather than simply the largest such operators.

3. State aid: regulation for neutrality is vital here. Services of General Economic Interest (SGEIs) include rural fibre optic projects, rural networks and dominant former monopolists. All carry severe anti-competitive subsidy problems for regulators.

4. Merger Control: as Ungerer and Vestager identified,98 mergers provide the best opportunity to induce structural reform of these markets, by divesting networks from dominant vertically and horizontally integrated actors, monitoring content company acquisition, and so on.

5. Evidence base: this is an extremely hard issue to analyse for competition law. Technical know-how, long-run Schumpeterian competition and network effects are all important. A major issue is that telecoms has ‘performed’ better than other privatised utilities, yet this improvement is about technology innovation (Moore’s and Metcalfe’s Laws),99 not competition at network level. Consider VoIP, WhatsApp and fibre capacity, and the examples of Hong Kong and Japan, where RIO costs are extremely low and not telco cost-related.

6. Economic Analysis of Innovation: there are information problems, emerging dominance, ‘over-the-top’ platform players and utility analysis of universal service to consider.

7. Institutional design mechanisms: Ungerer claims that ‘essential facilities’ competition was the basis for telecom liberalisation, yet in practice he acknowledges there has been little other than retail competition. Merger cases resulted in divestment of cable networks, but the many hundreds of

---

98 Ungerer (2013); Speech by Margrethe Vestager: Competition in telecom markets.
market reviews established that retail/long distance/international markets had liberalised, but wholesale/local networks had not. Structural rather than functional separation is becoming the favourite remedy, as Vestager indicates.

8. Human rights and personal data: there is analysis emerging of ‘predatory privacy policies’, and of competition barriers to platform competition. The problems of traffic monitoring and freedom of expression are considered in Chapter 5.

The limits of competition policy in the Digital Age are clear. These include ‘nudge as fudge’, when behavioural remedies are ineffective for consumers who have such limited knowledge. Technical knowledge of net neutrality policy and measurement is akin to making the decision on how close to live to Fukushima. There must be a role for regulation.

Competition law claims there is no problem when Facebook swallows WhatsApp and Instagram, as economists from Chicago tell us there is ‘no durable monopoly’ and that the EC has failed to even define a market. Former Commissioner Almunia set a very dangerous precedent here, as informal discussions about Google’s dominance started in November 2009 when Foundem complained. It has been many years without his ‘faster more informal’ competition procedure producing a result.

As will be explored in Chapter 5, the IAPs’ privacy-invasive activities have become subject to much scrutiny, yet the social media behemoths have escaped more or less scot-free, reflecting the very special place in public policy of the access provider. This is explained not merely by the evident monopoly power of the IAP, but as a feature of its position as the utility provider of a public need. Economists need to incorporate into their models that Internet access reflects the public policy choices about access to what is increasingly declared a human right: access to the Internet. That may sound grandiloquent, self-serving or overblown, but it is an emerging primary means of understanding the net neutrality debate. Without comprehending that users view Internet access as a more utilitarian and therefore profound service than that of social networks or Internet search, it is impossible to understand the net neutrality debate.

Maniadaki’s claims regarding the need for behavioural regulation as a remedy to digital services issues looks set to become a watchword for competition and communications regulators. The originator of net neutrality, Lawrence

100 Yeung (2012).
101 C(2011) 7279, Case No COMP/M.6281 Microsoft-Skype, with the EC failing to rule on market definition in para. 29 –consumers and paras 51, 55, 57, 62/1 – enterprises.
102 Marsden (2013c).
103 Maniadaki (2015).
Lessig, wrote on behavioural issues, normative issues and human rights in the digital economy prior to the Microsoft litigation in the US. European competition law seems on the cusp of discovering those lessons. That is why this issue is so important to competition lawyers, and a useful guide to competition law’s limitations for communications lawyers.