



Brugge

College of Europe
Collège d'Europe



Natolin

Net Neutrality: Smart Cables or Dumb Pipes?

An overview on the regulatory debate about how to govern the network

Miguel Ángel de Diego Martín



DEPARTMENT OF
EUROPEAN LEGAL STUDIES

Research Paper in Law

03 / 2016



College of Europe
Collège d'Europe



Natolin

European Legal Studies
Etudes Européennes Juridiques

RESEARCH PAPERS IN LAW

3/2016

Miguel Ángel de Diego Martín

Net Neutrality: Smart Cables or Dumb Pipes?

An overview on the regulatory debate about how to govern the network

© *Miguel Ángel de Diego Martín, 2016*

1 Introduction

On 30th April 2016 the provisions of the new Regulation on Open Internet Access¹ will enter into force in the EU. This will be yet another chapter of the long debate –some would call it saga- on net neutrality and the desirable architecture of the internet.

It is undeniable that the internet has become in a very short time a fundamental element of most people's professional and personal lives. High speed access to the net is now considered as an indispensable tool for innovation, productivity and development in modern societies. What is more, the internet has proven during the last decade that it is a potentially limitless technology whose disruptive effects can alter almost every industry, even its own one.

The internet has also become an essential tool for our private life. More and more citizens exercise their rights of freedom of expression and information on the internet, and digital newspapers and news-agencies are quickly replacing analogical ones as the main forum for debate and knowledge exchange. The increasing role that the internet plays in our societies is also reflected in the political arena, where most political parties are starting to take a position on how the internet should be regulated. As Commissioner Kroes expressed in a speech to the European Parliament:

*"I want us to show citizens that the EU is relevant to their lives. That we made the digital rules catch up with their legitimate expectations (...) I want you to be able to say that you saved their right to access the open internet, by guaranteeing net neutrality."*²

However, the internet is also subject to significant technological constraints. One of the most important relates to the maximum capacity of cables and their ability to carry an ever increasing amount of data while avoiding congestion issues.³ As a result of recent technological changes, Internet Service Providers (ISPs) are now able to exercise a greater control on the data packets that flow through their networks.⁴ This control allows them to be able to discriminate between the different content and applications, thus opening the possibility to tap new sources of revenues by charging content providers for "priority rights".⁵

As it could be expected, content providers do not agree with this new design of the internet and are fighting to maintain a non-discriminatory approach to data traffic. But they are not the only ones who oppose moving away from the "best-effort" guided practice that was conceived in the original structure of the internet⁶ to a differentiation of quality of service (QoS) that would allow discriminatory pricing practices.⁷ Several abuses of fundamental rights by ISPs have alarmed significant sectors of society, who believe that by granting ISPs absolute control on the data that goes through the cables they will lose control over what, when or how they can access content on the internet.

As a result of mixing these economic and political concerns, a lively debate has been sparked

¹ Regulation 2015/2120 of November 25 2015 laying down measures concerning open internet access and amending Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks and services and Regulation No 531/2012 on roaming on public mobile communications networks within the Union, OJ L 310, 26.11.2015, p. 1–18

² N. KROES, "The politics of the completing the Telecoms Single Market", Speech/13/484 30 May 2013, available at : http://europ.eu/rapid/press-realease_SPEECH-13-484_fr.htm

³ A PISANTY, "Network Neutrality Debates in Telecommunications Reform: Actors, Incentives, Risks" in in L. BELL, P. DE FILIPPI, *Net Neutrality Compendium: Human Rights, Free Competition and the Future of the Internet*, Springer, London, 2016, p.127, at 129

⁴ L. DE MUYTER, Y. DESMEDT, "Net Neutrality-from Catch-all to Catch-22" (2012) in A. STROWEL, *Net Neutrality in Europe/ La neutralité de l'Internet/Internet en Europe*, Bruylant, Brussels, 2013, p.57

⁵ B. VAN SCHEWICK, "Network Neutrality and Quality of Service: What a Non-Discrimination Rule Should Look Like" (2015) 67,1. *Public Law and Legal Theory Working Paper Series*, Research Paper No. 2459568. Stanford Law Review, p. 3

⁶ B. VAN SCHEWICK, D FARBER, "Network Neutrality Nuances". (2009) 52, 2, *Communications of the ACM*. p.31

⁷ P. LAROCHE, "Five Neglected issues about network neutrality" in A. STROWEL, *Net Neutrality in Europe/ La neutralité de l'Internet en Europe*, Bruylant, Brussels, 2013, p.77, at 79

during the last decade. During this time, both sides of the dispute have advanced legitimate arguments and, so far, governments and regulatory agencies have only been able to offer partially satisfactory measures. The question on whether the architecture of the internet should resemble a “dumb pipe”⁸ that merely connects content providers with end users or a “smart cable” network able to discriminate between different content and operate in a two sided market⁹ is still up to debate.

The first part of this paper contextualises the debate on net neutrality, analysing the different definitions of the term, the different actors in the market and their motivations. The second section is focused on the analysis of the need for regulation and the way the market works, paying particular attention to the underlying economic motivations of the different actors and the choice between different legislative and regulatory instruments.

To conclude, the main provisions of Regulation 2015/2120 will be analysed according to the principles laid down in the previous sections. Based also on these ideas, some elements for improvement will be highlighted and the role of competition law in an alternative and more flexible framework will be analysed.

⁸ J. SLUIJS, “Network Neutrality and European Law” [2012]. Network Neutrality and European law Nijmegen: Wolf Legal Publishers (WLP). p.33.

⁹ N. ECONOMIDES, “Net Neutrality Non-Discrimination and Digital Distribution of Content through the Internet” (2008) 4:1. *I/S: Journal of Law and Policy for the Information Society*, p.1-26

2 The net neutrality debate: what is it about?

The net neutrality debate has been, without a doubt, one of the most active regulatory debates of the decade.¹⁰ Almost all internet giants have at some point, expressed their position on the debate and, with an increasing role of politics in the area, it is not uncommon to find net neutrality related news in the mass media. Even President Obama made of net neutrality one of its major proposals during his first presidential campaign¹¹. To contextualise the reach of the debate, this section will analyse the different definitions given to the term, their implications and the different actors involved in the market.

2.1 What is net neutrality?

After more than one decade, scholars still struggle to give a clear definition to “net neutrality”.¹² The difficulty to clearly demarcate this issue is caused not only by the fact that the concept has not yet been unanimously defined by the industry or academics but also by the fact that it spans over very broad concepts -such as liberty, social fairness and non-discrimination.¹³

In its academic sense, the term “net neutrality” was first introduced at the beginning of the new millennium in a paper titled “*Network Neutrality, Broadband Discrimination*”.¹⁴ In its most basic definition “net neutrality” refers to the prohibition for Internet Service Providers or Internet Access Providers (ISPs or IAPs) to discriminate or treat in a different way the requests of different end-users.¹⁵ As such, net neutrality refers to the idea of keeping an “*open and neutral*” access to the Internet for actors upstream (content providers) and downstream (end-users),¹⁶ and to avoid any discriminatory or blocking practices by ISPS.¹⁷

Nonetheless, the definitions given to net neutrality vary greatly between different authors depending on the nationality, role and motivations of the writer. Some scholars prefer to avoid technical matters in their definitions and keep the reach of the term as broad as possible, thus making the definition easier to relate to consumer’s rights, fundamental freedoms and even data protection. This is the case for leading scholars such as William Baumol, who defines net neutrality as a set of proposals whose aim is to prevent ISPs from “*charging more for priority delivery*”¹⁸, or Barbara Van Schewick which refers to net neutrality as a set of “*non-discriminatory rules that prevent operators to discriminate against third parties*”¹⁹. This broad approach has also been endorsed by the European Union in its regulation Regulation 2015/2120, where net neutrality is referred to as the “*safeguard of equal and non-discriminatory treatment of traffic in the provision of internet access services and related end-*

¹⁰ R. QUECK, “La Neutralité de l’internet, la gestion du trafic et les services gérés ” in A. STROWEL, *Net Neutrality in Europe/ La neutralité de l’Internet en Europe*, Bruylant, Brussels, 2013, p.111, at 111

¹¹ R. LAYTON “Test of the FCC’s Virtuous Circle: preliminary Results for Edge Provider innovation and BIAS Provider Investment by Country with Hard versus Soft Rules” in L. Belli, P. de Filippi, *Net Neutrality Compendium: Human Rights, Free Competition and the Future of the Internet*, Springer, London, 2016, p.171, at 190

¹² M. CAVE, P. CROCIANI, “Does Europe Need Network Neutrality Rules?” (2007) 1, *International Journal of Communication*, p.670

¹³ M. CAVE, P. CROCIANI, *supra* note 12, p.670

¹⁴ T. WU, “Network Neutrality, Broadband Discrimination”(2003) 2, *Journal of Telecommunications and High Technology Law*, pp. 141-179

¹⁵ BEREC, “Differentiation practices and related competition issues in the scope of net neutrality”, (2012) 12 31 *BoR*, p 4.

¹⁶ Communication from the Commission to the European Parliament, the Council, the Economic and social committee and the Committee of the Regions on “The open internet and net neutrality in Europe” COM (2011) 222 final, (19.04.2011)

¹⁷ C. MARSDEN, “Zero Rating and Mobile Net Neutrality” in L. BELL, P. DE FILIPPI, *Net Neutrality Compendium: Human Rights, Free Competition and the Future of the Internet*, Springer, London, 2016, p.241, at 243

¹⁸ W.J. BAUMOL, ET AL, “Economists’s statement on net neutrality, [2007], *AEI Brookings joint center for regulatory studies*.

¹⁹ B. VAN SCHEWICK, *supra* note 5, p.329

users rights".²⁰

The flexibility of the definition of net neutrality is clearly shown by the ambiguous position of some of the most important companies of the sector.²¹ In 2010, Google reached an important agreement with Verizon (an American telecom operator) and consequently considerably changed its position regarding net neutrality. Shortly after the agreement was signed, Eric Schmidt -former CEO of Google- quickly specified that Google fully supported net neutrality but restricted its definition to non-discrimination between *data of the same type* instead of discrimination of *all data*.²² Consequently, according to this non-strict definition of net neutrality, discrimination within services "*such as video and voice*"²³ would be perfectly possible.

However, it is not uncommon to find more detailed and technical definitions. These definitions usually do not focus on the impact of net neutrality in society but on the requirements needed to ascertain whether a network is neutral or not. A great example of this approach is given by Alejandro Pisanty, who defines neutrality of a network as the delivery of Internet Protocol (IP) by "*without discrimination in its five essential elements*"²⁴: *protocols used, ports of connection, contents requested or point of origin and destination*".²⁵ As a result of this approach, the term net neutrality is detached from its more political meanings and merely focuses on the description of a practice in the telecommunications market.

Another great example of a technical definition was elaborated by BEREC, who in turn received its input from the Norwegian Communications Authority (NKOM).²⁶ This definition emphasises that "*all electronic communication passing through a network must be treated equally. That all communication is treated equally means that it is treated independent of (i) content, (ii) application, (iii) service, (iv) device, (v) sender address, and (vi) receiver address*"²⁷. As such, the term "net neutrality" refers to an absolute ban on four kinds of activities: content blocking (blocking access to different sites and services on the internet), prioritization of a company's own services (which is particularly relevant in vertically integrated undertakings), voluntary service degradation or bandwidth throttling practises (intentional slowing of certain internet services or applications).²⁸

2.2 Actors in the market

As in any other regulated market, the debate over net neutrality is heavily influenced by the actors that operate in it. In order to understand their different positions it is necessary to discern their different motivations and to identify the conflicting points. Although there are many different ways to classify them, in this section they will be divided according to their primary function between: owners of the infrastructure (ISPs or network operators), content providers and end users.²⁹

2.2.1 Network Operators/ Internet Service Providers:

ISP(s) manage the infrastructure necessary for connecting the source of the data (e.g. a content provider) to end-users. The requirements of these two extremes of the network define the standards that net operators have to satisfy, as they need to fulfil the expectations and demands of both ends of the pipe.

²⁰ Regulation 2015/2120 of November 25 2015, *supra* note 1, p.1

²¹ A. STROWEL, "Net Neutrality: What Regulation For the Internet In Europe and Beyond" in A. STROWEL, *Net Neutrality in Europe/ La neutralité de l'Internet en Europe*, Bruylant, Brussels, 2013, p.1, at 6

²² Emphasis added

²³ Interview of E. Schmidt quoted in D. GOLDMAN, "Why Google and Verizon's neutrality deal affects you", CNN Money, 5 August 2010.

²⁴ Also referred as the "*five alls*"

²⁵ A PISANTY, *supra* note 3, p. 129

²⁶ F. SORENSEN, "Specialised Services and the Net Neutrality Service Model" in L. BELL, P. DE FILIPPI, *Net Neutrality Compendium: Human Rights, Free Competition and the Future of the Internet*, Springer, London, 2016, p.99, at 100

²⁷ BEREC, *supra* note 15, p 4.

²⁸ L. DE MUYTER, Y. DESMEDT, *supra* note 4, pp. 47-48

²⁹ N. ECONOMIDES, *supra* note, p.4

This is far from an easy task as each of the activities of end users may result in very different kinds of demand, which includes different data transit requirements, bandwidth use and stability needs.³⁰ To satisfy these requirements net operators need to monitor the traffic on their networks. Since congestion will result in random packets being dropped from the net,³¹ the quality of service will be degraded for all users. However, since revenue to ISPs is provided by the end-users, it is in their interest to ensure the quality of the service remains acceptable for most of them.³² Striking a good balance becomes even more complex for ISPs when the fact that packets need to go through different net operators before arriving to the end users is taken into consideration.

It is also important to realise that network operators and ISPs are terms that, although they design undertakings in the same side of the market, are not exactly the same thing. ISPs are divided in different tiers depending on the number of networks they control and their extension. A network operator is an ISP in the lower tiers (last mile connection), usually providing service to a limited geographic area and relying on higher tiers to connect to other networks.³³

2.2.2 End Users:

The most important characteristic of end users is found in its sheer numbers and huge diversity. To most of them the way the network works is irrelevant; they pay their ISPs (and some even pay to specific content providers) to have access to a number of services. In exchange for this payment, they expect -as any other consumer- a service whose quality will enable them to enjoy the services they have acquired. However, when the network becomes congested some or all end users will experience degraded quality of service. In many cases, their lack of expertise about how the system works makes them prone to side against the net operator, which in many countries have a reputation for being ineffective or to favour certain clients³⁴. What is more, their ability to “vote with their feet” on bad traffic management practices from their ISPs is often hindered by the lack of alternatives or the difficulty to switch between providers.³⁵

2.2.3 Content Providers:

If network operators are characterised for their relatively low numbers, online service providers (or OSPs) are potentially almost infinite. This diversity is not restricted to their numbers, since the services that they provide are also extremely different and require different data intensities. This high variety is not a problem as long as the combined flow of data is lower than the capacity of the network. However, if the opposite problem arises, the capacity of the network will be exhausted and delays or loss of data will happen³⁶. Although there are different strategies to mitigate the damage caused by network overload (such as data compression or buffering) each content provider and service delivered has different requirements and such strategies may be very damaging to their products³⁷.

The most relevant element regarding the debate over net neutrality is the relation between content providers and net operators. Since massive data transfers issued by content providers are likely to create congestion in some parts of the network, most of the debate focuses on who should bear the costs of increasing the capacity of the network. Content providers rely on ISPs' investment and management of the network to reach end consumers.

³⁰ A PISANTY, *supra* note 3, p. 129

³¹ P. LAROUCHE, *supra* note 7, p.78

³² L. POUZIN, “Net Neutrality and Quality of Service” in L. BELLI, P. DE FILIPPI, *Net Neutrality Compendium: Human Rights, Free Competition and the Future of the Internet*, Springer, London, 2016, p.73, at 76.

³³ A PISANTY, *supra* note 3, p. 129

³⁴ B. THORNGREN, “Net Neutrality; not as neutral as it sounds” (2006), 1, *Ericsson Business Review*, pp.35-39

³⁵ P. LAROUCHE, *supra* note 15, p.81

³⁶ P. LAROUCHE, *supra* note 15, p.78

³⁷ L. POUZIN, *supra* note 30, p. 75

Since most content providers are heavily dependent on network effects³⁸, it is in their interest that net operators invest as much as possible in “last mile” connections. However, net operators are well aware of their strategic role and try to make content providers participate in their investment.³⁹

2.3 *The two sides of the debate:*

Now that the different actors in the market have been identified, it is possible to frame the different views over net neutrality. As in many other regulatory debates, the views over net neutrality are divided between proponents and opponents with very little common ground between these two perceptions.⁴⁰

Opponents of net neutrality are usually led by ISPs, and although they are less vocal than their opponents, it is not uncommon to find some scholars and regulators on this side of the debate.⁴¹ From their point of view, the need for price discrimination is a direct consequence of the higher prices they have to face to deliver higher volumes of content at higher speeds.⁴² It is also common to find arguments on this side of the debate relating to protection of investments and promoting innovation.⁴³ According to this approach, price discrimination is positive for society as it would help ISPs to finance the huge costs of developing the infrastructure necessary for the connections’ next generation.⁴⁴

As it can easily be inferred, the position against net neutrality is mostly based on economic factors. In many ways, the position held by most ISPs is the result of recent technological changes in the market and clearly reflects the concern of ISPs to find new business models.⁴⁵ In the longer term, ISPs fear becoming relegated to the role of a mere “data pipe” between content providers and end users.⁴⁶ Under these circumstances ISPs would lose all their market power and would be left out of the most important decisions of the market. To prevent the “*commoditization*” of their services, ISPs try to turn their services into a two-sided market that would allow them to preserve some relevance.⁴⁷ One of the best strategies to connect end users and content providers is precisely being able to offer discriminatory pricing and therefore, being able to adapt to different providers or end users demands and to compete between themselves.

According to the original design of the internet, traffic management would be guided by a “best effort” service⁴⁸. This means that all packets are treated equally and the network does its best to deliver them, without granting any guarantees regarding delay or packet losses. On the contrary, a network that offers QoS (quality of service) practices may prioritise between different packets⁴⁹, and thus guarantee a certain delay or stability for a sum of money. This possibility can be particularly important –and valuable– for congestion-sensitive applications.

³⁸ J. CRÉMER, P. REY AND J. TIROLE, “Connectivity in the Commercial Internet” (2000) 48,4, *The Journal of Industrial Economics*, p.437

³⁹ This has already led to some complaints in some Member States such as the dispute between Cogent and France Telecom over their peering agreements generated by Megaupload (Decision n°12-D-18 of the French Competition Council of 20 September 2012) or KPN’s decision to start deep packet inspection and VoIP throttling in the Netherlands.

⁴⁰ K. STYLIANOU, “The Persistent Problems of Net Neutrality or Why are We Still Lacking Stable Net Neutrality Regulation” in A. STROWEL, *Net Neutrality in Europe/ La neutralité de l’Internet en Europe*, Bruylant, Brussels, 2013, pp.211, at 213

⁴¹ A. STROWEL, *supra* note 7, p.6

⁴² A. STROWEL, *supra* note 7, p.6

⁴³ NET CONFIDENT COALITION, “Ensuring Network Stability and Consumer Confidence in Competitive Markets”, [2009], p.3

⁴⁴ NET CONFIDENT COALITION, *supra* note, 43, p.3

⁴⁵ R. FRIEDEN, “The debate over network neutrality in the United States” in A. STROWEL, *Net Neutrality in Europe/ La neutralité de l’Internet en Europe*, Bruylant, Brussels, 2013, p.25, at 27

⁴⁶ P. LAROCHE, *supra* note 7, p.78

⁴⁷ P. LAROCHE *supra* note 7, p. 78

⁴⁸ B. VAN SCHEWICK. *Supra* note 5, p. 3

⁴⁹ J. KUROSE, K. ROSS, “Computer Networking: A Top Down Approach”. Boston, MA: Pearson:Addison Wesley, 2010, p.34

More importantly, the effects of the new technologies can already be felt in the market and they are forcing ISPs to look for new sources of revenue. Although the cannibalization of revenue from the fixed voice telephony services at the beginning of the decade was easily compensated by increasing revenues from the development of broadband internet access, the math does not look so clear regarding revenues from mobile lines.⁵⁰ In this case the threat is much higher, since revenues from mobile telephony have traditionally been higher and, with the development of 3G and 4G, competition by applications is higher.⁵¹ This shift in revenues could heavily affect the profitability of ISPs and, consequently, settling the debate in a satisfactory manner is an essential part of their future business strategy.

If the position of net neutrality opponents is mainly driven by economic reasons, the reasons that drive net neutrality proponents are founded in elements of freedom, non-discrimination and consumer's rights.⁵² Net neutrality supporters claim that ISPs already have the ability to discriminate between the content that goes through its network and, consequently, to block or favour certain kinds of contents.⁵³ According to their point of view, the potential harm of such restrictions would not only be limited to competition between content providers and their freedom of choice⁵⁴, but could also easily extend to matters relating freedom of expression or personal privacy.⁵⁵ As a result of this broader approach, net neutrality proponents usually increase substantially the reach of their definition and include political elements in their analysis. In many cases this results in non-economic elements playing a fundamental role in the proposed regulation of the market.⁵⁶

The potential harm of data and price discrimination is enhanced by the fact that very often end users do not have the possibility to choose between different ISPs. In many areas of the United States and the European Union, users only have access to one –potentially two- last mile internet access providers.⁵⁷ As a result, many end users are not able to vote with their feet against any unnecessary service degradation and are defenceless against any kind of arbitrary discrimination. However, this threat is less significant for content providers as it is easier to shift between different internet backbone providers at the “entry side of the pipe”.⁵⁸

The banner of network neutrality has rallied many heterogeneous groups. Among them it is easy to find human rights organisations, consumer rights advocates and leading technological companies such as Microsoft or Yahoo!⁵⁹ An important number of governments⁶⁰ have shown their support to net neutrality until this date and so has, as expressed in Commissioner Kroes speech of June 4th 2013, the European Commission.⁶¹

A closer analysis of the motivations of internet giants and end users shows the reasons behind this unlikely alliance. It is beyond any kind of doubt that it is in both groups' interest that the service is delivered unconstrained by any throttling, blocking or any other element that may negatively affect its quality.⁶² End users want to enjoy the best quality for the service they have paid for and content providers want their services to arrive uninterrupted to their users without having to make additional payments to the ISPs. As the saying says, “*Si Paris*

⁵⁰ L. DE MUYTER, Y. DESMEDT, *supra* note 4. p.55

⁵¹ L. DE MUYTER, Y. DESMEDT, *supra* note 4. p.55

⁵² M. CAVE, P. CROCIONI, *supra* note 12, p.670.

⁵³ R. FRIEDEN, *supra* note 45, p. 28

⁵⁴ B. VAN SCHEWICK, D FARBER, *supra* note 6, p.31

⁵⁵ L.BELLI, “End-to-End, Net Neutrality and Human Rights” in L. BELLI, P. DE FILIPPI, *Net Neutrality Compendium: Human Rights, Free Competition and the Future of the Internet*, Springer, London, 2016, p.16

⁵⁶ M. CAVE, P. CROCIONI, *supra* note 12, p.670.

⁵⁷ R. FRIEDEN, *supra* note 45, p.29

⁵⁸ R. FRIEDEN, *supra* note 45, p. 29

⁵⁹ A. STROWEL, *supra* note 21,p.6

⁶⁰ An important number of countries have passed laws guaranteeing net neutrality. The Netherlands and Chile led the way, that was joined, among others, by the Colombia, Peru, Slovenia, the U.S, Brazil, Mexico and, more recently, the European Union.

⁶¹ N. KROES, *supra* note 2, p.4

⁶² A PISANTY, *supra* note 3, p.129

vaut bien une messe”,⁶³ enjoying free-of-charge access to the network is certainly worth showing a strong position on fundamental rights matters for these internet giants.

Taking everything into account, it is easy to realise that net neutrality partisans are not only concerned about potentially higher prices for their internet connection. On the contrary net neutrality is for them the best tool to guarantee access to an open internet and that no company will be able to take control of the network.⁶⁴ Contrary to the “*laissez faire*” approach defended by net neutrality opponents, partisans believe that market regulation and state intervention are positive for innovation and business opportunities.⁶⁵

Table 1: Definition of Net Neutrality and prevalent position

Actor	Position on Net Neutrality	In Favour/ Opposing
Telecom Operators	Regulation is not necessary. Specific market rules are sufficient.	Opposing
Content Providers	Regulation is essential to ensure fair competition. They want to avoid double payments to ISPs	In Favour
Technically aware users	Conflicting views. Aware of pros and cons of “hard-core” net neutrality regulation	In Favour/ Opposing
Technically Unaware users	Net Neutrality relates to democratic values and freedom of speech	In Favour

Source: R. WOJCIK⁶⁶ and own elaboration.

⁶³ Quote attributed to Henry IV of France, a convinced protestant that decided to abandon his beliefs and convert to catholicism in order to be able to rule France.

⁶⁴ R. WOJCIK, “Net Neutral Quality of service Differentiation in Flow-Aware Networks” (2011) AGH University of Science and Technology, Krakow, p. 37

⁶⁵ A. STROWEL, *supra* note 21, p.5

⁶⁶ R. WOJCIK, *supra* note 64, p.12

3 Net neutrality and the desired regulatory framework

Both sides of the debate have extensively argued about the (numerous) benefits of their position and the (even more numerous) disadvantages of the proposals of the opposing side. Despite the polarisation of the debate, both sides have been able to put forward very sensible arguments from a legal, political and economic point of view. This section will try to review the most important of them.

3.1 The case for regulation: Competition law and fundamental rights infringements by ISPs

The most important regulatory concern for net neutrality proponents is related to the ability of ISPs to block access to specific services and, by doing that, restrict consumer's rights and thwart innovation on the internet.⁶⁷ Although even net neutrality opponents recognise that this outcome is far from desirable, ISPs have proven that falling into this sort of anticompetitive behaviour can be too tempting to resist.⁶⁸

Two good examples of this kind of behaviour were displayed by Madison River and Comcast in 2005 and 2007 respectively.⁶⁹ Madison River, a phone company based in North Carolina, decided to block a telephony application called Vonage because it was perceived as a threat to its core business.⁷⁰ Similarly, Comcast –which at the time of the infringement was the second largest ISP in the U.S. - shut down different peer-to-peer services⁷¹, including those of Vuze, a company that legally delivered television content⁷². As in the previous case, the fact that Vuze competed with part of Verizon's core business seemed to be at the decision to block their services.⁷³

However, as some net neutrality proponents have underlined, the ability by ISPs to block specific content is not limited to competition-related issues.⁷⁴ In 2007, AT&T deleted part of a statement issued by the grunge band Pearl Jam because their critics towards George W. Bush violated their content policies.⁷⁵ Similar breaches of freedom of expression or consumer's rights have been done by Verizon Wire (who blocked a message campaign by a pro-abortion group) or AOL, which blocked some critics to its new pay-to-send email scheme⁷⁶. More recently, there have been allegations that Telefónica is slowing down connections to Netflix in Spain in order to protect their cable TV service.⁷⁷

Table 2: Brief selection of net neutrality breaches and harmed values

ISP/ Content Provider	Year	Discrimination	Harm to Competition /Fund. Rights
Madison River/ Vonage	2004	Service was blocked	Competition
Telus/TWU	2005	Webpage was blocked	Fundamental Rights

⁶⁷ B. VAN SCHEWICK. *Supra* note 5 , p. 3

⁶⁸ R. WOJCIK, *supra* note 64, p. 37

⁶⁹ B. VAN SCHEWICK, D. FARBER, *supra* note 6, p.32

⁷⁰ J. SIDA, "What is the Network Network Neutrality Debate Really About?" (2007) 1, *International Journal of Communication*, p. 383

⁷¹ FCC Decision 08-183. File EB-08-IH-1518. August 20, 2008

⁷² J. BARATA, "The concept of net neutrality and the tension between public regulation the private self-regulation of networks", (2011) 37:14, *Quaderns del Cac*, p. 54

⁷³ R. WOJCIK, *supra* note 39, p.38

⁷⁴ B. VAN SCHEWICK, D. FARBER, *supra* note 6, p.32

⁷⁵ B. VAN SCHEWICK, D. FARBER, *supra* note 6, p.32

⁷⁶ R. WOJCIK, *supra* note 64, p. 16

⁷⁷ I. HERGUERA. "Netflix y Movistar no conectan (como quisieran)" 20/01/2016, Available at <http://nadaesgratis.es/admin/netflix-y-movistar-no-conectan-como-quisieran>. Accessed on 13/02/2016

AOL/ Dearol	2006	Webpage was blocked	Fundamental Rights
Verizon/ Naral (Pro-abortion Association)	2007	Service was blocked	Competition & Fundamental Rights
AT&T/ Pearl Jam	2007	Content of a statement was modified	Fundamental Rights
Comcast/ Bit Torrent	2008	Blocking of application	Competition
Free/Google	2013	Blocking of sponsored links	Competition

Source: R. WOJCIK⁷⁸, B. FELTEN⁷⁹ and own elaboration.

Although all these cases cannot be considered by any means as a coordinated and far reaching strategy to put a competitor out of the market⁸⁰ or to manipulate public opinion, they clearly show that ISPs have the ability to control the traffic that flows through their networks.⁸¹ Consequently, it is safe to assert that, at least, there are some aspects highlighted by net neutrality partisans that should be taken into account when assessing the necessity of net neutrality regulation.⁸²

3.2 The indispensability of discriminatory practices for network managing

Even if ISPs have proven that they have the ability to put in practice the extremely dangerous practices for society; their arguments against net neutrality should not have been automatically discarded by regulators.⁸³ What it is more, most of the industry agrees that some kind of network management and control over its content is necessary.⁸⁴ Even BEREC, the European body of regulators for Electronic Communications, acknowledges the usefulness and need for control and blocking practices under certain circumstances.⁸⁵ Data packets screening plays an essential role in controlling spam, phishing and other harmful practices on the internet.⁸⁶ Even law enforcement sometimes requires selective blocking of applications or websites (for instance in cases of child-abuse imagery or to prevent Distributed Denial of Services (DDoS) attacks).⁸⁷

In order to prevent such practices, ISPs need to perform Deep Packet Inspections (DPI).⁸⁸ This practice is in itself contrary to the end-to-end perception of internet traffic, as it requires ISPs to abandon their position as a mere “data pipe” in order to actively discriminate against different kinds of content.⁸⁹ However, as both scholars and ISPs recognise ensuring the stability of the internet without these tools would probably be not possible.⁹⁰

Yet, the role of ISPs is not only limited to guaranteeing safety on the net. Another argument put forward with fervour by ISPs relates to technological progress and the need of regulation

⁷⁸ R. WOJCIK, *supra* note 64, p.37

⁷⁹ B. FELTEN: “There’s no economic Imperative to Reconsider on Open Internet” in L. BELL, P. DE FILIPPI, *Net Neutrality Compendium: Human Rights, Free Competition and the Future of the Internet*, Springer, London, 2016, p.80, at 81

⁸⁰ J. SIDA, *supra* note 70, p.357.

⁸¹ B. VAN SCHEWICK, D. FARBER, *supra* note 6, p.32

⁸² P. LAROCHE, F. CHIRICO, I. VAN DER HAAR, “Network Neutrality in the EU” (2008) *TILEC: Tilburg Law and Economics Center* p.13

⁸³ M. CAVE, P. CROCIONI, *supra* note 12, p.669

⁸⁴ F. SORESENSEN, *supra* note 26, p.110

⁸⁵ L.BELLI, *supra* note 55, p.18

⁸⁶ NET CONFIDENT COALITION, *supra* note 43, p.3

⁸⁷ A. PISANTY, “Network Neutrality under the Lens of Risk Management” in L. BELL, P. DE FILIPPI, *Net Neutrality Compendium: Human Rights, Free Competition and the Future of the Internet*, Springer, London, 2016, p.53, at 56

⁸⁸ A. PISANTY, *supra* note 86, p. 56

⁸⁹ R. BENDRATH, “Global Technology Trends and National Regulation: Explaining Variance in the Governance of Deep Packet Inspection” [2009] *International Studies Annual Convention*. p. 12

⁹⁰ NET CONFIDENT COALITION, *supra* note 43, p. 4

to respect the principle of technological neutrality.⁹¹ According to them, regulators should keep in mind that adopting net neutrality principles may seriously damage, or even completely block, the development of technologies that are highly demanded in the present market such as remote medical supervision⁹². A recurrent argument relates to the development of telemedicine and the improvement of VoIP (*Voice over IP*) services, which are bandwidth intensive technologies in which the stability and speed of the connection clearly determine the utility of the service and, with it, the willingness of users to pay for them⁹³. According to ISPs, should net neutrality principles be enforced, these technologies could not be developed with enough guarantees under the current technology⁹⁴.

Additionally, net neutrality opponents defend that there are enough reasons to disregard the—sometimes desperate—pleas of net neutrality partisans for specific regulation. According to them, a framework with minimum regulatory intervention, acting in concurrence with competition law, should be enough to deal with any possible abuse.⁹⁵ This limitation of *ex ante* regulation is deemed positive by ISPs as it interferes less with technological development and the natural evolution of the markets⁹⁶. Equally, they maintain that this kind of regulation is unnecessary as *ex post* competition law is enough to constrain any harm to competition or consumers⁹⁷. In any case—and unsurprisingly—the preference between net neutrality opponents for a semi self-regulatory model with post infringement enforcement by the competent authorities is very clear.⁹⁸

3.3 Economics of net neutrality

3.3.1 Potential efficiencies of a discriminatory environment

The launch by the European Commission of its “Telecommunications Single Market” Regulation seemed to signal the end of the previously timid and limited *ex ante* regulatory approach.⁹⁹ As it has been argued, this approach—although with some exceptions¹⁰⁰—was a product of the particularities and deep economic implications of this specific market¹⁰¹ and probably one of the main reasons the constant resolutions calling for net neutrality by the European Parliament—three in only four years—had been previously ignored.¹⁰²

The main economic argument underlying net neutrality regulation has been bluntly presented in several occasions by César Alierta, CEO of Telefónica¹⁰³. Essentially, the argument is that infrastructure providers need to make enormous investments in order to be able to deliver appropriate bandwidth to the maximum number of users and to keep up with increasing demand while content providers “piggyback” on their efforts in order to reap huge profits.¹⁰⁴ According to this idea, OSPs should help with the effort, even if this means that their profits

⁹¹ NET CONFIDENT COALITION, *supra* note 43, p. 2

⁹² J. PIL CHOI, B.C. KIM, “Net neutrality and investment Incentives” (2010) 41:3, *The RAND Journal of Economics*, pp. 446-471

⁹³ NET CONFIDENT COALITION, *supra* note 43, p. 2

⁹⁴ B. THORNGREN, “Net Neutrality; not as neutral as it sounds” (2006), 1, *Ericsson Business Review*, pp.35-39.

⁹⁵ M. CAVE, P. CROCIONI, *supra* note 12, p.674

⁹⁶ NET CONFIDENT COALITION, *supra* note 43, p. 2

⁹⁷ M. CAVE, P. CROCIONI, *supra* note 12, p.674

⁹⁸ J. BARATA, “The concept of net neutrality and the tension between public regulation the private self-regulation of networks”, (2011) 37:14, *Quaderns del Cac*, pp.51-55

⁹⁹ J. McNAMEE, M. FERNÁNDEZ PÉREZ, “Net Neutrality: An analysis of the European Union’s Trialogue Compromise” in L. BELLÍ, P. DE FILIPPI, *Net Neutrality Compendium: Human Rights, Free Competition and the Future of the Internet*, Springer, London, 2016, p. 183 at 183

¹⁰⁰ It is worth remembering that Article 22, section 3 of Directive 2009/136/EC of 25 November (citizen’s right directive) foresaw that national regulators could impose minimum levels of quality where there was a significant level of degradation.

¹⁰¹ J. BARATA, *supra* note 98, p.53

¹⁰² J. McNAMEE, M. FERNÁNDEZ PÉREZ, *supra* note 99, p. 183

¹⁰³ For instance in 2013 in the WCIT- World Conference on International Telecommunications in Dubai or, more recently in the Spanish Confederation for Executives Summit of 2015, that took place in October 2015

¹⁰⁴ A. PISANTY, “Network Neutrality under the Lens of Risk Management”, *supra* note 87, p.57

should be lower. This argument has been subsequently repeated by ETNO, the European Telecommunications Network Organization, through its spokesperson Luigi Gambardella.¹⁰⁵

The case for price discrimination directly derives from the Alierta/ETNO argument. If users of the network (OSPs) need to participate economically in the expansion of the networks, one of the easiest ways to collect these funds is by charging their use of the net.¹⁰⁶ What is more, by charging also the service provider, ISPs effectively turn the market into a two sided market with two different pricing strategies, since they also charge end users an “access fee”.¹⁰⁷

The implications of this dual pricing scheme will have extremely important consequences on the strategies adopted by ISPs to maximize their benefits.¹⁰⁸ ISPs are well aware of the sensitivities of the content provided by OSPs and their willingness to pay in order to avoid congestion.¹⁰⁹ Some applications, such as email services, are very insensitive to sporadic interruptions or delays. On the contrary, services such as video streaming or VoIP can be rendered useless if there are delays or packet losses caused by congestion in the network.¹¹⁰ These different requirements mean that different OSPs will have different incentives to interact with ISPs and, potentially, to accept a change in the way the current system works.¹¹¹

Unluckily, most economic models are not able to distinguish the different motivations of OSPs and prefer to model their behaviour homogeneously.¹¹² Equally, most models are analysed according to a monopoly perspective, stressing the “bottleneck role” of ISPs between both sides of the “data pipe”.¹¹³ Despite their limitations, these models underline several dilemmas faced by ISPs that are not easy to realise from a purely legal perspective.

One of them, and perhaps the most surprising from a competition law perspective, is that the incentives of each group of actors are not as clear-cut as their initial positions¹¹⁴ would lead us to believe.¹¹⁵ On the contrary, some studies suggest that end-users could benefit from discriminatory policies as prices for accessing the network could fall.¹¹⁶ The fact that content providers would participate in a more active way in the development of the lower tiers of the network would diminish the pricing pressure on the “end” side of the pipe and, if there is a competitive environment for this market, prices could fall significantly.¹¹⁷ Nonetheless, this conclusion needs to be taken with caution, as it largely depends on the set of assumptions of the model used and it has been nuanced by other authors.¹¹⁸

Unsurprisingly, most models predict that ISPs’ welfare is likely to increase under a discriminatory environment and that content providers would be the main losers in such a scenario.¹¹⁹ As a result of this, if the additional costs are properly allocated between the correct service providers, a discriminatory environment could have a positive impact on social welfare in the short term.¹²⁰ What is more, some studies have found that if freedom to choose between different qualities of network is considered as a valuable element for content providers and end-users, then pro-net neutrality policies are likely to have a negative effect on

¹⁰⁵ A PISANTY, “Network Neutrality Debates in Telecommunications Reform..” *supra* note 3, p.135

¹⁰⁶ J.P. CHOI, B.C. KIM, *supra* note 91, p. 449

¹⁰⁷ N. ECONOMIDES, *supra* note 9, p. 13

¹⁰⁸ J.P. CHOI, B.C. KIM, *supra* note 91, p. 450

¹⁰⁹ And indirectly, by the demands of end-users, who at least indirectly will pay for part of these additional cost.

¹¹⁰ NET CONFIDENT COALITION, *supra* note 43, p.2

¹¹¹ J.P. CHOI, B.C. KIM, *supra* note 91, pp. 449

¹¹² J. BAUER, J. OBAR, “Reconciling Political and Economic Goals in the Net Neutrality Debate” (2013) 30:1, *The Information Society*, p.9

¹¹³ J.P. CHOI, B.C. KIM, *supra* note 91, pp. 449

¹¹⁴ Cf. Chapter 2.2

¹¹⁵ J. BARATA, *supra* note 97, p.53

¹¹⁶ J.P. CHOI, B.C. KIM, *supra* note 91, p. 455

¹¹⁷ J.P. CHOI, B.C. KIM, *supra* note 91, p. 455

¹¹⁸ H.K. CHENG, S. BANDYOPADHAYAY, H. GUO, “The debate on net neutrality: A policy perspective” [2009] *Information Systems Research*, p.75

¹¹⁹ J. BAUER, J. OBAR, *supra* note 112, p.9

¹²⁰ H.K. CHENG, S. BANDYOPADHAYAY, H. GUO, *supra* note 118, p.75

society.¹²¹

Another interesting aspect highlighted by the literature is found in the strategic pricing dilemma that ISPs face. On the one hand, ISPs are willing to expand the capacity of their networks as bigger capacity allows them to offer better service (in terms of speed, data, etc.) to more end-users. Logically, a better service is valued higher by consumers, who will be logically willing to pay more.¹²² On the other hand, the increased capability of the net will negatively affect the sale price of “priority rights” to content providers. As a result of the increased capacity, congestion will disappear and the price that content providers pay for priority rights will drop until the increasing demand saturates the net again. As it can be seen, this dynamic introduces two important opposing forces in the pricing strategy of ISPs and results in weaker investment incentives under a discriminatory framework.¹²³

Under a discriminatory network, the models also identify that the possibility to charge higher priority rights to content providers can give strong incentives to ISPs to incur more severe quality degradation. Among other factors, this incentive depends greatly on the proportion of quality-sensitive content providers.¹²⁴ However, the threat of quality degradation disappears under net neutrality regulation because it would merely result in a loss of end users.¹²⁵

Although the literature has expressed important concerns over the hazards of market integration strategies by ISPs¹²⁶, the common assumption that market structure for ISPs is shaped as a monopoly limits the scope of the analysis in a substantial part of the literature, particularly relating to horizontal infringements.¹²⁷ Some authors have highlighted the high market shares-and tied to it, high market power- and extremely strong incentives for bundling strategies as the main source of concern from a competition law perspective.¹²⁸ Alternatively, other scholars have preferred to focus their analysis on the interplay between vertical integration and exclusionary strategies¹²⁹ for competing services¹³⁰. On the other side of the debate, models based on the role of congestion and rent extraction from content providers find that vertical integration should not give rise to regulatory concerns since, under their set of assumptions, there would no incentive to incur anticompetitive practices¹³¹ and vertical integration could lead to important efficiencies¹³². Considering the mixed results, the net effect of such behaviour is still difficult to ascertain.

3.3.2 Net neutrality proponent’s response

In general, net neutrality proponents are less focused on the market impact of regulation and take a more defensive approach, often complementing their “simpler” market analysis with political and civil rights issues.¹³³ However some important economic reasons to rely on net neutrality have been emphasised during the last years.

Net neutrality proponents have been quick to undermine the importance of the Alierta/ETNO argument by pointing out that OSPs also have to face important costs relating to the development of the infrastructure, particularly at the stage of backbone communications.¹³⁴ Accusations of “free-riding” or “piggy-backing” are dismissed by net neutrality proponents on

¹²¹ B. HERMALIN, M. KATZ, “The economics of product-line restrictions with an application to the network neutrality debate”, (2007) 19, *Information Economics and Policy*, p. 236

¹²² N. ECONOMIDES, *supra* note 9, p.9

¹²³ J.P. CHOI, B.C. KIM, *supra* note 91, p. 455

¹²⁴ J.P. CHOI, B.C. KIM, *supra* note 91, p. 456

¹²⁵ H.K. CHENG, S. BANDYOPADHAYAY, H. GUO, *supra* note 118, p.76

¹²⁶ B. VAN SCHEWICK, D FARBER, *supra* note 6, p.33

¹²⁷ H.K. CHENG, S. BANDYOPADHAYAY, H. GUO, *supra* note 118, p.76

¹²⁸ N. ECONOMIDES, *supra* note 9, p.10

¹²⁹ J. BARATA, *supra* note 97, p.53

¹³⁰ B. VAN SCHEWICK, D FARBER, *supra* note 6, p.33

¹³¹ J. SIDA, *supra* note 70, p. 379

¹³² J.P. CHOI, B.C. KIM, *supra* note 91, p. 455

¹³³ J. BAUER, J. OBAR, *supra* note 112, p.14

¹³⁴ B. FELTEN, *supra* note 79, p.69

the basis that network operators only cover the final stages of the total covered distance.¹³⁵

Another argument commonly put forward relates to the low costs of traffic management –that is, the cost that can be attributed to avoiding congestion from the OSPs services- and their negligible impact when compared with the total costs of developing a network. As the following figure shows, traffic management costs amount to approximately 0.66% of the total monthly cost per consumer, or, expressed in different words, to only 10 cents of a total cost of 15.1 € per month. According to net neutrality proponents, the important difference in magnitude between these numbers does not support the demand of ISPs to receive additional payments to compensate the costs caused by incurring traffic management activities.¹³⁶

Table 3: Estimated cost spread of a consumer ADSL

Estimated cost spread of a consumer ADSL customer in France. Source: ARCEP Modeling, 2012



Source: ARCEP¹³⁷, FELTEN¹³⁸

Net neutrality proponents have also expressed their concerns over some aspects of market integration and investment incentives. In the eyes of ISPs, forbidding price discrimination equals to price regulation.¹³⁹ On the other hand, net neutrality partisans argue that this measure is necessary due to the lack of effective competition.¹⁴⁰ This absence of effective competition between different ISPs erodes competitive pressures in the market and favours positions of excessive market power, which in turn can generate exploitative abuses.¹⁴¹ Although pro-net neutrality scholars are aware that price control can have negative effects on the investment incentives of ISPs¹⁴², they also highlight that this detrimental effect is also found under price discrimination strategies due to the conflicting incentives created between increasing net capacity for end-users and its diminishing effect on the rents charged

¹³⁵ B. FELTEN, *supra* note 50 ,p.69

¹³⁶ ARCEP, "Rapport au Parlement et au Gouvernement sur la neutralité de l'internet", Autorité de régulation des communications électroniques et des postes. Septembre 2012, p.20

¹³⁷ ARCEP, *supra* note 136, p.21

¹³⁸ B. FELTEN, *supra* note 50 ,p.69

¹³⁹ NET CONFIDENT COALITION, *supra* note 56 , p.4

¹⁴⁰ I. BALTATESCU, "The economics of net neutrality: Policy Issues" (2014) 6,2, *Knowledge Horizons-Economics*, "Dimitrie Cantemir" University, pp. 114-118

¹⁴¹ H.K. CHENG, S. BANDYOPADHAYAY, H. GUO, *supra* note 120, p.73

¹⁴² I. BALTATESCU, *supra* note 140, p.115

to content providers for their priority rights.¹⁴³

In an extremely interesting turn, net neutrality proponents have on some occasions shifted the attention to the perverse incentives created by deficient government regulation on the deployment of broadband infrastructure. According to this approach, the restrictive regulation imposed by governments creates an entry barrier for new ISPs and protects the incumbent's market power position,¹⁴⁴ thus resulting in a severe lack of competition at the end-user level.¹⁴⁵ Accordingly, reducing regulatory barriers would allow the entrance of new market players, whose competitive pressure would erode the incentives for unnecessary anti-competitive behaviour (such as service degradation) and would incentivise capacity investment.¹⁴⁶

Once again, content providers and end-consumer interests' seem to be aligned. The recent development of Google Fiber –Google's own experimental broadband infrastructure- in some regions of the U.S. has provided a clear case to evaluate the effect of the entry of new competitors in the net operators' market. The local governments of Kansas City and Austin - probably influenced by the huge media impact of Google's new project- substantially lowered their requirements for "right of way", granting access to Google Fiber for very little cost. The entrance of a new operator resulted in higher competition between ISPs and lower prices for all internet connections.¹⁴⁷ Given the positive results in the selected regions, the plea for higher competition between ISPs and more transparent regulation on the side of governments has been reinforced by net neutrality partisans¹⁴⁸.

3.4 Regulatory approaches to Net Neutrality

The debate about net neutrality was first sparked by technological change in the technical capabilities of ISPs to control and discriminate between the data that flowed through the infrastructure.¹⁴⁹ By leaving behind the "application blind" original design of the internet, the whole design of the principles that should guide internet infrastructure was suddenly open to debate¹⁵⁰. Although the possibility to discriminate between different content was seen with scepticism from the beginning, scholars and regulators were also quick to realise that content discrimination could be an essential tool to deal with the ever-increasing demand of end-consumers. The importance of both sides of the debate was already highlighted by the creator of the term "net neutrality"¹⁵¹. However, as the need for regulation became more and more evident, the debate polarised quickly.¹⁵²

In order to tackle demands for regulatory intervention,¹⁵³ governments and regulatory agencies have tried different regulatory frameworks. Using previous experiences, at least three different approaches can be identified: use of legislation, actions through regulation and intervention by means of soft-law elements. These different strategies differ in the goals they want to secure and these experiences are worth analysing in order to draw conclusions about the most desirable framework for regulation in a field as sensitive as net neutrality.

LEGISLATION: Hard law was the preferred choice of many of the jurisdictions that pioneered net neutrality regulation. Legislation has commonly been the choice in those countries in which abuses by ISPs were perceived as a direct threat to fundamental liberties, thus causing

¹⁴³ J.P. CHOI, B.C. KIM, *supra* note 91, p. 455

¹⁴⁴ I. BALTATESCU, *supra* note 140, p. 115

¹⁴⁵ B. SZOKA, M. STARR, J. HENKE, "Don't blame big cable, it is local governments that choke broadband competition," [2013] *Wired*, 16.07.2013. Available at <http://www.wired.com/2013/07/we-need-to-stop-focusing-on-just-cable-companies-and-blame-local-government-for-dismal-broadband-competition/>, Accessed on 23/03/2016

¹⁴⁶ I. BALTATESCU, *supra* note 140, p. 115

¹⁴⁷ I. BALTATESCU, *supra* note 140, p. 115

¹⁴⁸ J. KRÄMER, L. WIEWIORRA, C. WEINDHART, "Net Neutrality: A progress report" (2012): 37,9, *Telecommunications Policy*, p.794-813

¹⁴⁹ A. STROWEL, *supra* note 21, p. 27

¹⁵⁰ B. VAN SCHEWICK, *supra* note 5, p.2

¹⁵¹ T. WU, *supra* note 14, p. 141-179

¹⁵² K. STYLIANOU, *supra* note 40, p. 214

¹⁵³ B. VAN SCHEWICK, D FARBER, *supra* note 6, p.31

a higher concern to society and a more important impact in the political debate.¹⁵⁴

This approach has proven particularly popular in South America, where Brazil¹⁵⁵, Colombia¹⁵⁶, Chile¹⁵⁷, Peru¹⁵⁸ and Mexico¹⁵⁹ have updated their telecommunications law in order to tackle concerns over net neutrality. In Europe, this strategy was chosen by the Netherlands¹⁶⁰ and Slovenia¹⁶¹ -the two pioneers of net neutrality regulation in Europe¹⁶² and, more recently has been adopted by the European Union through Regulation 2015/2120.¹⁶³

The benefits of introducing legislation through hard norms have been widely studied. First and foremost, legislation gives legal certainty and ensures a stable framework in which the different actors of the market can act.¹⁶⁴ This is particularly important in sectors, such as broadband development, in which investments in infrastructure account for the bulk of the costs and the recovery of the expense is planned over long periods of time.¹⁶⁵ Legislation also has the benefit of higher legitimacy, due to the democratic process in which it is drafted and which usually implies the use of public enquiries and consultation of the different stakeholders in the market.¹⁶⁶ In addition, and opposed to norms issued by regulatory bodies, legislation can only be challenged under very special circumstances,¹⁶⁷ thus ensuring the stability and durability of the system.

Experience shows that most legislative approaches take an extremely favourable position towards net neutrality.¹⁶⁸ In some cases, such strategies have been criticised for neglecting the valid concerns raised by net neutrality opponents.¹⁶⁹ Traditionally national parliaments have adopted extremely hard rules banning quality of service, zero rating and tackling any foreclosure threats, with only very limited exceptions in order to guarantee the stability of the net under special circumstances (e.g. criminal enforcement, suppression of spam or management under exceptional demand). In some cases, national legislation even foresees notification systems for users that may be problematic in terms of congestion issues before proper action is taken.¹⁷⁰

REGULATION: Depending of the conferred competences, regulatory bodies can on some occasions issue their own rules on matters such as net neutrality. Some countries have preferred this approach to issuing “hard” laws. The two most relevant examples are

¹⁵⁴ R. LAYTON, *supra* note 11, p.158

¹⁵⁵ Lei 12965, 2014 April 23: Estabelece Princípios, Garantias, Direitos E Deveres Para O Uso Da Internet No Brasil, Available at http://www.planalto.gov.br/ccivil_03/_ato2011-2014/2014/lei/l12965.htm. Accessed on 22/04/2016

¹⁵⁶ Ley 1450/2011 (2011) Por La Cual Se Expide El Plan Nacional de Desarrollo 2010-2014, Available at http://www.wipo.int/wipolex/en/text.jsp?fi_id=226358. Accessed on 22/04/2016

¹⁵⁷ Ley nº 20.453 que consagra el Principio de Neutralidad En La Red Para Los Consumidores Y Usuarios de Internet. Available at <http://www.leychile.cl/Navegar?idNorma=1016570>. Accessed on 22/04/2016

¹⁵⁸ Ley 29904 (2012) de Promocion de La Banda Ancha Y Construccin de La Red Dorsal Nacional de Fibra Optica. Availabe at <https://www.osiptel.gob.pe/articulo/ley-29904-promocion-banda-ancha-rdinfo> Accessed on 22/04/2016

¹⁵⁹ Ley Federal de Telecomunicaciones y Radiodifusión. (2014). Available at <http://www.sct.gob.mx/fileadmin/Comunicaciones/LFTR.pdf>. Accessed on 22/04/2016

¹⁶⁰ Telecommunicatiewet. Available at <http://wetten.overheid.nl/BWBR0009950/2014-01-25>. Accessed on 22/04/2016

¹⁶¹ O Razglasitvi Zakona O Elektronskih Komunikacijah ZEKom.1 (2012, December 21), Available at <http://www.uradni-list.si/1/content?id=111442> Accessed on 22/04/2016

¹⁶² F. SORENSEN, “A Norwegian Perspective on European Regulation of Net Neutrality” in L. BELL, P. DE FILIPPI, *Net Neutrality Compendium: Human Rights, Free Competition and the Future of the Internet*, Springer, London, 2016, p.231 at 233

¹⁶³ Regulation 2015/2120, *supra* note 1.

¹⁶⁴ J. BARATA, *supra* note 97, p.51

¹⁶⁵ B. FELTEN, *supra* note 79 ,p.69

¹⁶⁶ R. LAYTON, *supra* note 11, p.159

¹⁶⁷ R. LAYTON, *supra* note 11, p.159

¹⁶⁸ K. STYLIANOU, *supra* note 40, p .213

¹⁶⁹ K. STYLIANOU, *supra* note 40, p .213

¹⁷⁰ R. LAYTON, *supra* note 11, p.159

Canada¹⁷¹ and the U.S.¹⁷²

In many ways, the choice between regulation and “hard” law reflects a choice between democratic legitimacy and technical knowledge¹⁷³. Although this division needs to be nuanced (parliaments can be assisted by experts and regulators can improve the democratic legitimacy of their actions by consultations)¹⁷⁴ the strategy choice has very important consequences in the regulatory framework. As the experience in different countries has shown, pure regulatory approaches are usually less influenced by the debate on civil rights on the net and, consequently, are more likely to take into account the economics and context of the market.¹⁷⁵ As a result, regulatory intervention can be more balanced than in cases of direct parliamentary intervention.¹⁷⁶

However, regulatory intervention can also be a risky choice. Under most jurisdictions, actions by regulatory agencies can be reviewed and challenged in courts. Ultimately, these challenges can strike down the whole legislation, thus introducing important elements of uncertainty and instability in the regulatory framework.¹⁷⁷ The clearest example of these risks is found in the recent developments in the U.S, as Verizon was able to challenge the authority of the FCC (Federal Communications Commission) and strike down the Open Internet Order¹⁷⁸, which imposed principles of non-discrimination and no blocking on ISPs.¹⁷⁹ In this case in particular, the Court of Appeals of Washington D.C.¹⁸⁰ found that the FCC was competent to issue norms in elements such as net neutrality, but it found that the obligations included in those principles contravened the ban on imposing common carrier obligations to undertakings that had not been categorised by the FCC as telecommunication service providers, as was the case for ISPs.¹⁸¹ The important repercussions of an annulment such as the one at hand clearly show the significant risks of regulatory intervention by agencies, and how the in-depth and complex analysis carried out by Courts will magnify this risk when broader policy issues are at stake.

SOFT LAW: Soft law approaches are characterised by the use of co-regulation, conduct codes, guidelines and other different strategies to involve stakeholders in the process. This approach has been particularly popular in Asia and some of the most relevant jurisdictions in Europe (including France, the U.K. and the Scandinavian countries).

Soft regulation can take several forms. In the case of France, the regulator was sceptical about the role of net neutrality and the weight of American companies in the design of network principles.¹⁸² As a result ARCEP (Autorité de Régulation des Communications Electroniques et des Postes) published a set of principles oriented to regulate elements such as consumer rights, capacity, congestion management or transparency for all actors in the market without having to adopt a whole set of net neutrality rules.¹⁸³ In a similar fashion, Norway holds annual stakeholder meetings to discuss the status of net neutrality in the country.¹⁸⁴ By trying to find compromises between the different sides of the market, the

¹⁷¹ Telecom Regulatory Policy CRTC, 2009-657. Ottawa, CA: Canadian Radio-television and Telecommunications Commission, October 21, 2009. Available at: <http://www.crtc.gc.ca/eng/archive/2009/2009-657.htm>. Accessed on 22/04/2016

¹⁷² FCC. Report and Order on Remand, Declaratory Ruling, and Order, March 12, 2015, FCC 15-24. Available at https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-24A1.pdf. Accessed on 22/04/2016

¹⁷³ R. LAYTON, *supra* note 11, p.159

¹⁷⁴ F. SORENSEN, *supra* note 162, p.233

¹⁷⁵ R. LAYTON, *supra* note 11, p.159

¹⁷⁶ K. STYLIANOU, *supra* note 40, p.214

¹⁷⁷ R. LAYTON, *supra* note 11, p.159

¹⁷⁸ FCC, Report and Order, December 23, 2010, FCC 10-201. Available at https://apps.fcc.gov/edocs_public/attachmatch/FCC-10-201A1_Rcd.pdf. Accessed on 22/04/2016

¹⁷⁹ B. VAN SCHEWICK. *Supra* note 5, p.2

¹⁸⁰ Verizon Communications Inc. v. Federal Communications Commission, 740 F.3d 623 (D.C. Cir. 2014).

¹⁸¹ B. VAN SCHEWICK. *Supra* note 5, p.2

¹⁸² R. LAYTON, *supra* note 11, p.161

¹⁸³ ARCEP, “Neutralité de l’internet: Etat des Lieux du Cade de Régulation”. *Les Actes de l’Arcep*. September 2015.p7-14

¹⁸⁴ F. SORENSEN, *supra* note 26, p.233

Norwegian regulator hopes to dilute the need for hard-core regulation¹⁸⁵.

In many ways, soft-law, acting along with competition rules, has the power to overcome the defects of legislation and regulation by specialised authorities.¹⁸⁶ Under a soft-law structure, regulators are relieved of the pressure of having to find the correct approach the first time as the system allows for higher flexibility.¹⁸⁷ Additionally, the risk of litigation to challenge regulatory measures is substantially lower. This can lead to the initially counter-intuitive result that soft-law can give greater legal certainty than norms issued by the *a priori* competent authority and subsequently challenged in court.

Soft law has also kept a good record on legitimacy issues. Net neutrality advocates and opponents can agree on common points and discard the back-or-white approach that has been widely criticised in legislation while designing a framework that will prevent -or punish- any possible abuse.¹⁸⁸ As some authors suggest, name and shame strategies in a sector as relevant to public opinion as net neutrality could be a more effective restraining method than hard rules that can be easily defeated in court.¹⁸⁹ In addition, the enforcement capacity of soft law rules can be complemented by a “carrot and stick” strategy: ISPs have an incentive to respect soft-rules (carrot) to avoid greater rulemaking by governments (stick).

In light of these elements, it is not surprising that many authors have expressed their preferences for a soft-law approach instead of intervention by Parliaments or rulemaking agencies.¹⁹⁰ In their view, applying a more flexible set of principles along with a case-to-case enforcement through competition law would allow to break the lock created by the two opposing positions.¹⁹¹ By filtering only those practices that have been proved to be harmful to society, the regulatory framework ensures that no additional distortions are introduced in adjacent matters-such as investment or consumer protection.¹⁹²

¹⁸⁵ F. SORENSEN, *supra* note 26, p.233

¹⁸⁶ K. STYLIANOU, *supra* note 40, p.214

¹⁸⁷ R. LAYTON, *supra* note 11, p.161

¹⁸⁸ K. STYLIANOU, *supra* note 40, p.211

¹⁸⁹ R. LAYTON, *supra* note 11, p.161

¹⁹⁰ F. SORENSEN, *supra* note 26, p.233

¹⁹¹ K. STYLIANOU, *supra* note 40, p.213

¹⁹² K. STYLIANOU, *supra* note 40, p.213

4 Lights and shades of Regulation 2015/2120.

After having analysed the different approaches to regulation of net neutrality, this section will evaluate the provisions of Regulation 2015/2120. This examination will be complemented by the most common critiques to this piece of legislation and, to conclude, the arguments for and against an alternative regulatory framework will be analysed in light of the previous sections.

4.1 Key elements of Regulation 2015/2120

On 27 October 2015 the European Parliament adopted the Telecoms Single Market (TSM) Regulation.¹⁹³ This regulation is the product of a long debate in the EU institutions, which in many ways mimicked the debate that took place in societies on both sides of the Atlantic during the previous years.¹⁹⁴ Already in 2009 the European Commission issued a declaration that expressed its commitment to preserve the open structure and neutrality of the internet. This advance resulted in Directive 2009/140/EC¹⁹⁵ whose objective was to prevent divergent approaches by different national regulators, to empower them to sanction violations of reasonable traffic-management practices and to protect sensitive areas relating to competition within the internal market and consumer rights¹⁹⁶.

However, after the European Parliament issued four requirements demanding stronger action¹⁹⁷ on the field of net neutrality, the Commission finally presented a new proposal in September 2013. The goal of this proposal, as part of the Digital Agenda strategy,¹⁹⁸ was again to ensure a smooth internal telecommunications market by introducing several net neutrality provisions that would guarantee a model of open internet.¹⁹⁹ After a long negotiation progress, the Regulation was formally approved on 1 October 2015 by the Council and 27 October 2015 by the European Parliament²⁰⁰.

This new set of rules, that will be applicable from 30 April 2016, introduces new elements in four different areas: end user's rights, non-discrimination obligations for ISPs, rules for specialised services, and rules on zero ratings and data caps.

End User's rights to open internet access

The new regulation, as the overwhelming majority of legislative instruments all around the world,²⁰¹ takes a clear position in favour of net neutrality. As such, the Regulation bans any kind of blocking, throttling or discrimination by ISPs in the services they provide to end users.²⁰²

Surprisingly, the regulation does not provide a definition of the term "net neutrality".²⁰³ This ambiguity is the result of a long debate between the European Parliament and the Council about the reach of the term. While the European Parliament favoured a broader definition for the concept, the Council wanted to restrict net neutrality to the equal treatment of internet

¹⁹³ Regulation 2015/2120, *supra* note 1.

¹⁹⁴ P. LAROCHE, *supra* note 7, p.77

¹⁹⁵ Directive 2009/140/EC of the European Parliament and of the Council of 25 November 2009 amending Directives 2002/21/EC on a common regulatory framework for electronic communications networks and services, 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities, and 2002/20/EC on the authorisation of electronic communications networks and services, *OJ L* 337pp. 37–69

¹⁹⁶ EUROPEAN PARLIAMENT. "The EU rules on network neutrality: key provisions, remaining concerns" [2015] *European Parliamentary research Service*. Briefing November 2015. p. 3

¹⁹⁷ For instance, Resolution of 17 November 2011 on the open internet and net neutrality in Europe and resolution of 11 December 2012 on completing the Digital Single Market.

¹⁹⁸ European Commission, Digital Agenda in the Europe 2020 strategy, available at <http://ec.europa.eu/digital-agenda/en/our-goals>, accessed on 23/04/2016

¹⁹⁹ F. SORESENSEN, *supra* note 26, p. 100

²⁰⁰ J. MCNAMEE, M. FERNÁNDEZ PÉREZ, *supra* note 99, p.186

²⁰¹ K. STYLIANOU, *supra* note 40, p.213

²⁰² EUROPEAN PARLIAMENT, *supra* note 196. p. 3

²⁰³ J. MCNAMEE, M. FERNÁNDEZ PÉREZ, *supra* note 99, p.186

traffic.²⁰⁴ Finally, an agreement was reached between both institutions to guarantee equal treatment and free access for end users- independently of the application or technical equipment used- but this compromise was reached at the cost of not including a clear definition of the term.²⁰⁵

ISP non-discrimination obligation

By extension of the definition of net neutrality, the non-discrimination requirements in Regulation 2015/2120 ban the adoption of QoS strategies by ISPs and enshrine the use of the best effort principle as the basis of network management, regardless of whether the company has a dominant position in the market.²⁰⁶ Only under very special circumstances does the Regulation allow to set aside the equal treatment of data packets.²⁰⁷ These circumstances -labelled as “reasonable traffic management measures”²⁰⁸- aim to guarantee the stability and safety of the network. These practices, based on merely technical aspects, are subject to a proportionality test carried out by national regulators.²⁰⁹ However, no further information is given about the requirements of this test which, historically, has resulted in some confusion about its limits and application in cases of abuse of dominant position.²¹⁰ Additional exceptions are foreseen to allow ISPs to comply with legislative acts, orders by courts or public authorities, to prevent damage to the network or to ensure the security of those using it.²¹¹

Specialised Services

During the negotiations, net neutrality opponents raised the possibility that some sectors that require a particularly demanding quality of connection (i.e. telemedicine or some VoIP services) could be labelled as “special services” and be excluded from the common net neutrality requirements.²¹² This effectively meant that ISPs would exempt a part of their network from network neutrality rules and devote it to these particular activities.

Once again the European Parliament and the Commission collided in their views on the matter.²¹³ Finally, the possibility of offering “specialised services” is guaranteed if the service provided is clearly differentiated to those given over the traditional network²¹⁴ and there is no detriment to the “best effort” service on the rest of the network. These safeguards want to ensure that ISPs will not use the “specialised service” category to circumvent the obligations imposed on the traditional network.

To ensure this differentiation, a substitution test is designed to ensure that the service cannot be simply delivered over the traditional network. As it was the case for the non-discrimination principle, the test is barely developed in the Regulation and national regulators need clearer rules to carry out their analysis.²¹⁵

²⁰⁴ EUROPEAN PARLIAMENT, *supra* note 196. p. 3

²⁰⁵ In its Article 1, Regulation 2015/2120 refers to its goal as “*the safeguard of equal and non-discriminatory treatment of traffic internet (...) related end-users' rights*”

²⁰⁶ J. McNAMEE, M. FERNÁNDEZ PÉREZ, *supra* note 99, p.188

²⁰⁷ EUROPEAN PARLIAMENT, *supra* note 196. p. 3

²⁰⁸ Regulation 2015/2120, *supra* note 1, Article 3.3

²⁰⁹ EUROPEAN PARLIAMENT, *supra* note 196. p. 3

²¹⁰ D. WOOD, “Proving It: The standard and burden of proof in article 82 cases” [2008] *Competition Law Insight*, p.2

²¹¹ EUROPEAN PARLIAMENT, *supra* note 196. p. 4

²¹² EUROPEAN PARLIAMENT, *supra* note 196. p. 4

²¹³ J. McNAMEE, M. FERNÁNDEZ PÉREZ, *supra* note 99, p.188

²¹⁴ EUROPEAN PARLIAMENT, *supra* note 196. p. 4

²¹⁵ J. MARCUS, M. WALDBURGER, “Identifying harm to the best efforts internet” [2015] *Wissenschaftliches Institut für Infrastruktur und Kommunikationsdienste*, p.23

Zero rating and data caps

The term “data caps” refers to a limit in the amount of data a consumer can use in a certain period of time. If the limit is exceeded, the end users may experience slower connection speed, extra fees or even prevention from further use.²¹⁶

Regulation 2015/2010 takes a liberal approach to these contracts and acknowledges their importance for the business model of most ISPs. As a result of this, ISPs are able to include in their contracts with end-users element such as speed, prices or volume of data.²¹⁷ This element, as well as the possibility of applying higher fees once the limit is exceeded, have not raised important questions from a net neutrality perspective.²¹⁸

On the other hand, “zero rating” strategies have sparked a more interesting debate. Zero rating is defined as a positive price discrimination practice that allows users to access applications, services or content without being charged or without the data consumed in that action being considered for contractual purposes.²¹⁹ In essence it means that access to some applications or content is given for free. Although this is undoubtedly positive for end users, it raises important concerns from a competition law perspective as it allows ISPs to favour their affiliated content against rival services.²²⁰

Despite these concerns, Regulation 2015/2120 does not forbid the use of zero rating by ISPs. Disappointed by the decision, some scholars and national regulators have concluded that this practice can be abusive and have expressed their opinion that it should be banned.²²¹ On the other side of the debate, proponents of zero rating strategies argue that this is a legitimate action to promote specific content and applications and deem that the impact on competition, investment and social welfare is unequivocally positive.²²² However, the text of the regulation does not provide any tool to help national regulators distinguish between anti-competitive and welfare enhancing²²³ practices in their jurisdiction, thus increasing the legal uncertainty on the matter.²²⁴

4.2 Critiques to Regulation 2015/2120

Although most stakeholders have expressed their satisfaction with the outcome of the negotiations and the text of the Regulation,²²⁵ this satisfaction seems to relate more to damage limitation strategies and political gratification than delight with the legal and economic outcome of the text of the Regulation. Net neutrality proponents congratulate themselves because they now have a piece of legislation that explicitly enshrines most of the principles they endorse.²²⁶ On the other side of the debate the mood is also relatively cheerful. Although most of the provisions are detrimental to the interests of ISPs, they have been able to keep enough backdoors open to ensure that some of their most fundamental demands are not automatically discarded. Even if the most grievous discriminatory practices have been banned²²⁷ (thus appeasing the European Parliament and voters in many Member State jurisdictions) ISPs are still able to implement some discriminatory practices via the so called “specialised services”, “zero rating” strategies or even through the use of traffic management

²¹⁶ C. MARSDEN, *supra* note 17, p.243

²¹⁷ EUROPEAN PARLIAMENT, *supra* note 196. p. 6

²¹⁸ BEREC, “Report on How Consumers Value Net Neutrality in an Evolving Internet Marketplace: a report into ecosystems dynamics and demand side forces” (2015) 65, *Body of European Regulators for Electronic Communications*. P.21

²¹⁹ C. MARSDEN, *supra* note 17, p.242

²²⁰ C. MARSDEN, *supra* note 17, p.242

²²¹ B. VAN SCHEWICK, *supra* note 5, p.102

²²² NERA ECONOMIC CONSULTING, “The Economics of Zero Rating” [2015] *Insight in Economics*, p.9

²²³ The complexity of the debate is also shown in the position adopted by the U.S, where ISPs are also allowed to practice zero rating. Complaints are heard by the FCC and the debate focuses on whether a rule of reason approach is sufficient to prevent abuses in the market.

²²⁴ EUROPEAN PARLIAMENT, *supra* note 196. p. 7

²²⁵ EUROPEAN PARLIAMENT, *supra* note 196. p. 7

²²⁶ J. McNAMEE, M, FERNÁNDEZ PÉREZ, *supra* note 99, p.186

²²⁷ J. McNAMEE, M, FERNÁNDEZ PÉREZ, *supra* note 99, p.185

actions foreseen for “exceptional circumstances”.²²⁸

However, by trying to find a compromise between both sides of the net neutrality debate, the Regulation may have missed its main objective: providing a stable regulatory framework that guarantees end users’ rights and fair competition in the market. While it is true that Regulation 2015/2120 avoids the common black-or-white approach that has been heavily criticised in previous net neutrality regulation,²²⁹ it is also true that it offers extremely little guidance on how to deal with situations that fall out of the scope of the most grievous abuses.

In many ways, the Regulation is far from being a solid piece of legislation. For instance, Art 3.3.a recognises that “*courts or public authorities vested with relevant powers*”²³⁰ will be able to block or slow down sites. Nonetheless, recital 13 of the Regulation recognises that the text of the Charter of Fundamental Rights²³¹ is applicable to any restrictions applied by traffic providers. These two elements are hard to reconcile, since the Charter recognises that any limitations in the exercise of fundamental rights (such as the rights of expression or information) must always be provided by law.²³² As a result, the role that national regulatory bodies can play in some of their decisions to guarantee the stability and security of the net is somehow unclear and still open to debate.²³³

Equally, the Regulation allows ISPs to apply reasonable, technical²³⁴ measures to manage the network²³⁵. Unluckily, the text of the Regulation does not offer any information about the technical parameters that ISPs can use to manipulate traffic in their networks and it only states that these measures must be transparent, non-discriminatory and subject to a test of proportionality. As highlighted by some authors, this framework can be very detrimental to minority protocols (such as encrypted communications) or those whose requirements from the net are uncommon (such as FTP or P2P), thus creating the possibility for distortions to competition.²³⁶

Regulation 2015/2120 does not offer a clearer solution for cases of zero rating. Although, due to its “positive” nature, zero rating practices have sparked less outrage than other price discriminations, the Parliament and the Council have struggled to find a compromise on this matter. Both the European Parliament’s Rapporteur and Commissioner Oettinger stated in the first reading of the legislation that zero rating practices would fall out of the scope of the regulation.²³⁷ This would have led to conflicts with jurisdictions (such as the Netherlands) that had already banned the practice.²³⁸ However, the final text Regulation decided to allow this kind of practices, therefore introducing an important source for distortions of competition.²³⁹

In conclusion, Regulation 2015/2120 seems to offer a poor balance on the two strongest points of hard legislation: legal certainty and democratic legitimacy.²⁴⁰ Without clear rules –or even guidelines– to analyse the proportionality of exceptions to the non-discrimination principle or the substitutability of the specialised services,²⁴¹ national regulators will find themselves ill equipped to apply the principles of the Regulation.²⁴²

²²⁸ NERA ECONOMIC CONSULTING, *supra* note 222, p.9

²²⁹ K. STYLIANOU, *supra* note 40, p.213

²³⁰ Art. 3.3.a of Regulation 2015/2120.

²³¹ Charter of Fundamental Rights of the European Union, [2012] O.J. C326

²³² Art 52.1 Charter of Fundamental Rights of the European Union.

²³³ J. MCNAMEE, M, FERNÁNDEZ PÉREZ, *supra* note 99, p.187

²³⁴ As opposed to merely commercial practices

²³⁵ Art 3.3 subparagraph 2 of Regulation 2015/2120

²³⁶ J. MCNAMEE, M, FERNÁNDEZ PÉREZ, *supra* note 99, p.187

²³⁷ J. MCNAMEE, M, FERNÁNDEZ PÉREZ, *supra* note 99, p.189

²³⁸ EUROPEAN PARLIAMENT, *supra* note 196. p. 8

²³⁹ C. MARSDEN, *supra* note 17, p.242

²⁴⁰ Cf. Section 3.3

²⁴¹ EUROPEAN PARLIAMENT, *supra* note 196. p. 8

²⁴² K. STYLIANOU, *supra* note 40, p.213

4.3 Improvements to Regulation 2015/2120

Under most circumstances, clear-cut legislation is considered desirable in markets where investment plays an important role.²⁴³ However, there are major concerns on whether the approach taken by Regulation 2015/2120 is able to have a positive impact on society apart from its provisions protecting civil rights.²⁴⁴ Some authors have even expressed that it would not be surprising to find that, under the current circumstances, ISPs will reduce their investment in infrastructure or that end users will have to bear the burden of further investment to keep up to the increasing demand.²⁴⁵

Among the proposals to improve the content of the legislative act, a call for co-regulation and case-per-case analysis of infringements with the assistance of competition law seems to be particularly popular between specialised scholars, particularly among those who frame net neutrality in more economic terms.²⁴⁶ In reality, this approach does not differ in many points from the proposals of Regulation 2015/2120 in matters of civil rights, but it would offer a more consistent approach in economic and competition terms. By drawing the regulation at the European level closer to the Scandinavian model²⁴⁷ the EU could overcome the lock on the debate on net neutrality while addressing issues that are specific to the European Market.²⁴⁸ In particular, the use of the U.S. regulation on the matter as a model has been heavily criticised due to important differences in the underlying regulation for telecommunication markets (for instance on common carrier obligations)²⁴⁹, the role of content providers²⁵⁰ and ISPs and the role of sector specific regulation and competition law.²⁵¹

The deep implications of these three elements underline the complexity of the market, particularly when its impact on adjacent fields (such as innovation) is taken into account. Adopting “hard” net neutrality principles may even favour the big companies that already dominate the market disproportionately, as small, innovative start-ups could try to overcome their lack of network effects by paying ISPs for a better and faster service to end-consumers.²⁵² As a result, banning any kind of differentiation on the market could have the undesired effect of securing the incumbent’s dominant positions.

The complexity of the market is also clearly visible at the pace it develops and changes. Some internet giants are already developing their own data centres and networks in order to provide higher quality video streaming or cloud services to end users. If the trend continues, the structure of internet traffic will move away from the “end-to-end” data pipe concept to a more modular structure.²⁵³ Under this structure, exclusionary abuses from vertically integrated operators would not be a major concern, while active differentiation in pricing and services would.²⁵⁴

However, a co-regulatory approach needs important improvements in certain areas in order to ensure the necessary guarantees. One of the fields that has traditionally been pointed as a weakness of the European system is its lack of transparency, both in the contracts between end-users and ISPs and in traffic management activities. Excessively high entry barriers and exorbitant administrative burdens for new ISPs have also been signalled as a cause of low competitive pressure between network operators and a relatively low-hanging fruit for

²⁴³ J. BARATA, *supra* note 97, p.53

²⁴⁴ J. McNAMEE, M. FERNÁNDEZ PÉREZ, *supra* note 99, p.187

²⁴⁵ I. BALTATESCU, *supra* note 140, p.114

²⁴⁶ K. STYLIANOU, *supra* note 40, p.213

²⁴⁷ Also followed by other major jurisdictions in the EU such as France or the U.K.

²⁴⁸ P. LAROUCHE. “The Network Neutrality Debate Hits Europe” (2009) 52,5, *Communications of the ACM*, p.22-25

²⁴⁹ L. DE MUYTER, Y. DESMEDT, *supra* note 4, p 79

²⁵⁰ R. LAYTON, *supra* note 121, p.174

²⁵¹ P. LAROUCHE *supra* note 7, p. 78

²⁵² R. LAYTON, *supra* note 11, p.173

²⁵³ R. LAYTON, *supra* note 11, p.174

²⁵⁴ D. WELLER & B. WOODCOCK “Internet Traffic Exchange” (2013) *OECD Digital Economy Papers*, OECD, p. 21

improvement.²⁵⁵

The third element, and perhaps the most relevant in order to ensure a good functioning of the market, relates to the role of competition law as an effective tool to ensure a fair competitive environment. This point has sparked debates for a long time with very different positions and it is worth a brief analysis.²⁵⁶

4.4 The (uncomplete) role of competition law

By merely relying on guidelines and other soft law instruments to set the general direction of net neutrality, competition law would play a crucial role to discipline the market and define the extent of anti-competitive practices.²⁵⁷ However, this approach seems to conflict with one of the most active debates on EU competition law, as it would require a strong effect-based approach to abuses of Art. 102 TFEU.

According to some authors, applying an economic-based approach to the enforcement of net neutrality principles should not cause any problem.²⁵⁸ On the contrary, they contend that an approach based on a “rule of reason” test would be able to discriminate between harmful and beneficial practices and benefit society without need for further specific regulation.²⁵⁹ This model was advocated-and almost adopted- by the FCC in 2014 with its “*Notice for Proposed Rulemaking (NPRM) in the Matter of Protecting and Promoting the Open internet*”.²⁶⁰ As expressed by the text of the proposal, restrictions of competition would be banned, “**based on the totality of the circumstances**”, *threaten to harm internet openness and all that it protects*.²⁶¹

However, a comparable approach could be difficult to replicate in the EU, particularly taking into account the greater reticence of the ECJ to abandon its *per se* approach to infringements of Art 102 TFEU for a more economic based reasoning.²⁶³

While it remains undisputed that ISPs have a position of “gate-keepers” due to the necessity of content providers to connect with them,²⁶⁴ it is not so clear whether that market power translates into a higher control of refusal to deal with infringements by competition authorities, as the satisfaction of the criteria²⁶⁵ set in *Bronner*²⁶⁶ and *Microsoft*²⁶⁷ is far from clear, particularly regarding indispensability.²⁶⁸ However, the text of the Guidance Paper²⁶⁹ or the presence of certain circumstances -such as the existence of previous dealings- could lower the need to satisfy these criteria and favour a proper assessment of these infringements.²⁷⁰

For cases where there is no blocking of the content but degradation in the quality or speed of the service, the current approach under 102 TFEU could also raise some questions about its applicability to net neutrality abuses. An important question concerns the coherence of how

²⁵⁵ I. BALTATESCU, *supra* note 140, p. 115

²⁵⁶ K. STYLIANOU, *supra* note 40, p.215

²⁵⁷ K. STYLIANOU, *supra* note 40, p.215

²⁵⁸ K. STYLIANOU, *supra* note 40, p.215

²⁵⁹ J. MCNAMEE, M. FERNÁNDEZ PÉREZ, *supra* note 99, p.187

²⁶⁰ FCC, “Notice for Proposed Rulemaking (NPRM) in the Matter of Protecting and Promoting the Open internet” 2014.FCC-14-61A1.

²⁶¹ Emphasis added.

²⁶² FCC, *supra* note 260, p. 41

²⁶³ A. FATUR, “*EU Competition Law and the Information and Communication Technology Network Industries*”, London, Hart Publishing, 2012, p.113

²⁶⁴ N. NIKOLINAKOS, *EU Competition Law and Regulation in the Converging Telecommunications, Media and IT Sector*, Amsterdam, Kluwer Law International, 2006, p.611

²⁶⁵ These criteria are elimination of competition on downstream market indispensability of the facility, and absence of justification.

²⁶⁶ Judgement in *Brenner*, C-7/97, ECLI:EU:C:1998:569

²⁶⁷ Judgement in *Microsoft*, T-201/04, ECLI:EU:T:2007:289

²⁶⁸ P. LAROCHE *supra* note 7, p. 83

²⁶⁹ Guidance on the Commission’s enforcement priorities in applying Art 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings. (2009) OJ C 45, 24.2.2009, p. 7–20

²⁷⁰ A. FATUR, *supra* note 263, p.113

blocking access to the net and discriminatory practices are dealt with. As explained in *Telia Sonera*²⁷¹, supply under disadvantageous terms does not need to satisfy the conditions laid down in *Bronner* as there is no refusal to supply.²⁷² However, this could lead to the contradiction that the most grievous infringement (refusal to supply) could be subject to stricter requirements to find an abuse under 102 TFEU than less harmful conducts (unfavourable discriminatory conditions).²⁷³

Additionally, the current scope of Art.102 would not be able to deal with some discriminatory situations likely to arise without “hard” net neutrality regulation. This is the case, for instance, for discriminatory practices directed towards applications or data packets, which would fall outside the current scope of Art. 102 TFEU as they do not translate in discrimination between firms.²⁷⁴

But, besides these incoherencies, the reluctant response of the ECJ to a more economic driven approach to abuses of dominant positions seems to be the most important obstacle to a hypothetical reconciliation of competition law with a more flexible approach to net neutrality. Although the Commission has shown its willingness to take a less formalistic approach to abuses of dominant position, -for instance with its Guidance paper, or the reasoning in *Intel*²⁷⁵ or the *Post Danmark*²⁷⁶ cases- the GC and the ECJ have wandered over the role of economic analysis or the role of *per se* abuses under the text of 102 TFEU²⁷⁷. In order to ensure the proper functioning of the market and the coherence with flexible regulatory principles, the ECJ needs to sacrifice the legal certainty and enforcement efficiencies provided by formalistic approach of the cases such as *Michelin*²⁷⁸, *British Airways*²⁷⁹ or, more recently the *Intel* case, and to decisively adopt a more economic approach when dealing with these infringements.

In this sense, the wider understanding of Art 102.c TFEU in *Post Danmark I* regarding the possibility of offering different conditions to similar clients without being considered as an abuse –as long as prices did not reach a predatory level²⁸⁰- offers a good insight of the kind of effect-based approach demanded by a more flexible regulatory framework for net neutrality.

²⁷¹ Judgement in *Telia Sonera*, C-52/09, ECLI:EU:C:2011:83

²⁷² Judgement in *Telia Sonera*, ECLI:EU:C:2011:83, para 55-57

²⁷³ P. LAROCHE *supra* note 7, p. 84

²⁷⁴ P. LAROCHE *supra* note 7, p. 85

²⁷⁵ Judgement in *Intel*, T-286/09, ECLI:EU:T:2014:547

²⁷⁶ Judgment in *Post Danmark I*, C-209/10, ECLI:EU:C:2012:172 and Judgment in *Post Danmark II* C-23/14, ECLI:EU:C:2015:651,

²⁷⁷ OXERA, “The Post Danmark II judgement: effects analysis in abuse of dominance cases” (2015) *Oxera agenda October 2015*, p.3

²⁷⁸ Judgment in *Michelin*, T-203/01, ECLI:EU:T:2003:250

²⁷⁹ Judgment in *British Airways* C-95/04, ECLI:EU:C:2007:166.

²⁸⁰ P. LAROCHE *supra* note 7, p. 85

5 Conclusions:

Several serious infringements to freedom of expression and information carried out by ISPs in the U.S and the European Union sparked the interest of many sectors of society on the debate about net neutrality. The need to prevent an 1984-esque future in which ISPs have absolute control over the information that is accessible to end-users has featured prominently in many political debates of western societies during the last decade, and has inspired several governments to take decisive action against such threat.

However, a closer analysis of the elements at stake reveals a more complex-although perhaps less romantic- reality. As many other regulatory debates, the debate over net neutrality personifies the economic interest of the different actors of the market. Technological change now allows ISPs to move from the “application blind” model of the net to a less application agnostic business model. As a result of this, ISPs can now discriminate between the different data that flows to their network and use this ability to tap into new sources of revenue. On the other side of the debate, content providers fear having to pay important sums to ISPs in order to reach their main source of income: end-consumers.

These purely technical concerns are reinforced by economic elements. ISPs argue that, without costly investments, they will not be able to satisfy the increasing demand and congestion will become endemic in the network. Fearing having to contribute financially to these investments, most content providers have allied themselves with sectors of civil society in order to maintain open access to the internet and preserve the democratic principles of its original design (while saving substantial amounts of money).

Although exaggerated, almost apocalyptical visions are commonly used on both sides of the debate to tilt the opinion of civil society and regulators; the truth is that net neutrality addresses important elements of sustainability and security of the network and consumer rights. In the case of the European Union, these concerns have been addressed in the framework of the Digital Market Strategy by the means of Regulation 2015/2120.

Regulation 2015/2120 is, without doubt, an important step forward in the regulation of net neutrality. After long years of debate and negotiation, the Council and European Parliament have been able to pass a piece of legislation that most stakeholders consider as acceptable. However, this satisfaction does not necessarily relate to the quality of the text. While the Regulation devotes lots of resources to guaranteeing the rights of end-users, important issues related to the economic and competitive concerns of net neutrality are neglected or very lightly regulated. This could have important detrimental consequences for society in the following years.

One of the most important critics relates to the choice of a legislative instrument such as a Regulation and the ambiguity of most of its content. As a Regulation, this piece of legislation was expected to provide legal certainty and democratic legitimacy to the approach adopted by the EU. However, by deferring the assessment of the most complicating practices to national regulators over very vague tests, the Regulation fails both of its original purposes.

This has led some authors to wonder if, given the difficulty to correctly address the legitimate concerns of both sides of the debate, a more flexible approach to net neutrality would not have been more desirable. From their point of view, a co-regulatory approach based on flexible principles and guidelines would avoid the current black-and-white approach and would tolerate practices that are beneficial to society while punishing those who pose a threat to fair competition.

However, this flexible approach requires important changes in the way European markets work. First, transparency in the market and in traffic management practices needs to be improved. Without transparent contracts and traffic management practices, competition between ISPs is severely restricted. Secondly, governments need to lower the barriers of access to broadband services. In many areas of Europe the broadband market is very concentrated, and in many cases, only a couple of ISPs deliver to a particular area. In order to foster competition in the market switching costs have to be lowered so that the threat of

“voting with your feet” can be real.

Thirdly, and perhaps more importantly, there are some concerns about the ability of current European competition law to deal with net neutrality related abuses in a satisfactory way. Although 102 TFEU has explored figures that are fully applicable to this context –such as refusal to deal or exploitative abuses- case law has imposed a number of tests that, in some cases, cannot be fully transposed to a net neutrality context. Additionally, the ECJ would have to follow the steps of the Commission and adopt a more effects-based approach to 102 TFEU infringements in order to maintain coherence with a flexible set of principles while ensuring discipline in the market.

Bibliography

Books:

FATUR,A. “*EU Competition Law and the Information and Communicatio technology Netwrok Industries*”, London, Hart Pusblishing, 2012, p.113

MARSDEN,C. “Zero Rating and Mobile Net Neutrality” in L. BELLI, P. DE FILIPPI, *Net Neutrality Compendium: Human Rights, Free Competition and the Future of the Internet*”, Springer, London, 2016, p.241, at 243

NIKOLINAKOS,N. *EU Competition Law and Regulation in the Converging Telecommunications, Media and IT Sector*,Amsterdam, Kluwer Law International, 2006, p.611

Articles:

ARCEP, “Neutralite de l'internet: Etat des Lieux du Cade de Régulation”. *Les Actes de l'Arcep*. September 2015.p7-14. Available at http://www.arcep.fr/uploads/tx_gspublication/net-neutralite_etat-lieux-regul-0915.pdf Accessed on 11/04/2016

ARCEP, “Rapport au Parlement et au Gouvernement sur la neutralité de l'internet”, Autorité de regulation des communications électroniques et des postes. Septembre 2012, p.1-134. Available at http://www.arcep.fr/uploads/tx_gspublication/rapport-parlement-net-neutralite-sept2012.pdf. Accessed on 11/04/2016

BALTATESCU, I. “The economics of net neutrality: Policy Issues” (2014) 6,2, *Knowledge Horizons-Economics*, “Dimitrie Cantemir” University, pp. 114-118

BARATA, J. “The concept of net neutrality and the tension between public regulation the private self-regulation of networks”, (2011) 37:14, *Quaderns del Cac*, pp.51-55

BAUER, J. OBAR, J. “Reconciling Political and Economic Goals in the Net Neutrality Debate” (2013) 30:1, *The Information Society*, p.9

BAUMOL, W.J. ET AL, “Economists’satement on net neutrality, [2007], *AEI Brookings joint center for regulatory studies*.

BELLI, L. “End-to-End, Net Neutrality and Human Rights” in L. BELLI, P. DE FILIPPI, *Net Neutrality Compendium: Human Rights, Free Competition and the Future of the Internet*”, Springer, London, 2016, p.16

BENDRATH, R. “Global Technology Trends and National Regulation: Explaining Variance in the Governance of Deep Packet Inspection” [2009] *International Studies Annual Convention*. p. 12

BEREC, “Differentiation practices and related competition issues in the scope of net neutrality”, (2012) 12 31 *BoR*, p 4.

BEREC, “Report on How Consumers Value Net Neutrality in an Evolving Internet Marketplace: a report into ecosystems dynamics and demand side forces” (2015) 65, *Body of European Reulators for Electronic Communications*. P.21. Available at http://berec.europa.eu/eng/document_register/subject_matter/berec/reports/5024-berec-report-on-how-consumers-value-net-neutrality-in-an-evolving-internet-marketplace-a-report-into-ecosystem-dynamics-and-demand-side-forces. Accessed on on 11/03/2016

CAVE , M. CROCIONI, P. “Does Europe Need Network Neutrality Rules?” (2007) 1, *International Journal of Communication*, p.670

CHENG, A, FLEISHCHMANN K. ET AL. "The Role of Innovation and Wealth in the Net Neutrality Debate: A Content Analysis of Human Values in Congressional and FCC Hearings. [2012] *Journal of the American Society for Information Science and Technology*.

CHENG, H.K. BANDYOPADHAYAY, S. GUO, H. "The debate on net neutrality: A policy perspective" [2009] *Information Systems Research*, p.60-84 Available at http://www.europarl.europa.eu/RegData/etudes/BRIE/2015/571318/EPRS_BRI%282015%29571318_EN.pdf. Accessed on 22/02/16

CRÉMER, J. REY P. AND TIROLE, J. "Connectivity in the Commercial Internet" (2000) 48,4, *The Journal of Industrial Economics*, p.437

D. WOOD, "Proving It: The standard and burden of proof in article 82 cases" [2008] *Competition Law Insight*, p.2

DE MUYTER, L. DESMEDT, Y. "Net Neutrality-from Catch-all to Catch-22" (2012) in A. STROWEL, *Net Neutrality in Europe/ La neutralité de l'Internet en Europe*, Bruylant, Brussels, 2013, pp-47-48

ECONOMIDES, N. "Net Neutrality Non-Discrimination and Digital Distribution of Content through the Internet" (2008) 4:1. *I/S: Journal of Law and Policy for the Information Society*, p.1-26

EUROPEAN PARLIAMENT. "The EU rules on network neutrality: key provisions, remaining concerns" [2015] *European Parliamentary research Service*. Briefing November 2015. Available at

FCC, "Notice for Proposed Rulemaking (NPRM) in the Matter of Protecting and Promoting the Open internet" 2014.FCC-14-61A1. Available at https://apps.fcc.gov/edocs_public/attachmatch/FCC-14-61A1.pdf Accessed on 12/03/2016

FELTEN, B: "There's no economic Imperative to Reconsider on Open Internet" in L. BELL, P. DE FILIPPI, *Net Neutrality Compendium: Human Rights, Free Competition and the Future of the Internet*, Springer, London, 2016, p.80, at 81

FRIEDEN, R. "The debate over network neutrality in the United States" in A. STROWEL, *Net Neutrality in Europe/ La neutralité de l'Internet en Europe*, Bruylant, Brussels, 2013, p.25, at 27

HERMALIN, B. KATZ, M. "The economics of product-line restrictions with an application to the network neutrality debate", (2007) 19, *Information Economics and Policy*, p. 215-248

KRÄMER, J. WIEWIORRA, L. WEINDHART, C. "Net Neutrality: A progress report" (2012): 37,9, *Telecommunications Policy*, p.794-813

KUROSE, J. ROSS, K. "Computer Networking: A Top Down Approach". Boston, MA: Pearson/Addison Wesley, 2010, p.34

LAROUCHE, P. "Five Neglected issues about network neutrality" in A. STROWEL, *Net Neutrality in Europe/ La neutralité de l'Internet en Europe*, Bruylant, Brussels, 2013, p.77, at 78

LAROUCHE, P. "Contrasting legal solutions and the comparability of US and EU experiences" in F. LEVÊQUE, H. SHELANSKI, *Antitrust and regulation in the EU and US. Legal and economic perspectives*, Cheltenham, Edward Elgar, 2008, p.

LAROUCHE, P. "The Network Neutrality Debate Hits Europe" (2009) 52,5, *Communications of the ACM*, p.22-25

LAROCHE, P. CHIRICO, F. VAN DER HAAR, I. "Network Neutrality in the EU" (2008) *TILEC: Tilburg Law and Economics Center* p.13 Available at: <http://www.europarl.europa.eu/document/activities/cont/200805/20080507ATT28491/20080507ATT28491EN.pdf> Accessed on: 23/02/2016

LAYTON, R. "Test of the FCC's Virtuos Circle: preliminary Results for Edge Provider innovation and BIAS Provider Investment by Country with Hard versus Soft Rules" in L. Belli, P. de Filippi, *Net Neutrality Compendium: Human Rights, Free Competition and the Future of the Internet*, Springer, London, 2016, p.171, at 158

MARCUS, J. WALDBURGER, M. "Identifying harm to the best efforts internet" [2015] *Wissenschaftliches Institut für Infrastruktur und Kommunikationsdienste*, p.23

MCNAMEE, J. FERNÁNDEZ PÉREZ, M. "Net Neutrality: An analysis of the European Union's Trialogue Compromise" in L. BELL, P. DE FILIPPI, *Net Neutrality Compendium: Human Rights, Free Competition and the Future of the Internet*, Springer, London, 2016, p. 183 at 183

NERA ECONOMIC CONSULTING, "The Economics of Zero Rating" [2015] *Insight in Economics*, p.9. Available at <http://www.nera.com/content/dam/nera/publications/2015/EconomicsofZeroRating.pdf>. Accessed on 12/03/2016

NET CONFIDENT COALITION, "Ensuring Network Stability and Consumer Confidence in Competitive Markets", [2009], p.1

OXERA, "The Post Danmark II judgement: effects analysis in abuse of dominance cases" (2015) *Oxera agenda October 2015*, p.3

PIL CHOI, J. BYUNG-CHEOL, K. "Net neutrality and investment incentives" (2010) 41, 3. *The RAND Journal of Economics*, pp. 446-471

PISANTY, A. "Network Neutrality under the Lens of Risk Management" in L. BELL, P. DE FILIPPI, *Net Neutrality Compendium: Human Rights, Free Competition and the Future of the Internet*, Springer, London, 2016, p.53, at 56

PISANTY, A. "Network Neutrality Debates in Telecommunications Reform: Actors, Incentives, Risks" in L. BELL, P. DE FILIPPI, *Net Neutrality Compendium: Human Rights, Free Competition and the Future of the Internet*, Springer, London, 2016, p.127, at 129

POUZIN, L. "Net Neutrality and Quality of Service" in L. BELL, P. DE FILIPPI, *Net Neutrality Compendium: Human Rights, Free Competition and the Future of the Internet*, Springer, London, 2016, p.73, at 76

QUECK, R. "La Neutralité de l'internet, la gestion du trafic et les services gérés " in A. STROWEL, *Net Neutrality in Europe/ La neutralité de l'Internet en Europe*, Bruylant, Brussels, 2013, p.111, at 111

SIDAK, J. "A Consumer-Welfare Approach to Network Neutrality Regulation of the Internet" (2006) 2(3), *Journal of Competition Law and Economics*, p.349-474

SIDAK, J. "What is the Network Neutrality Debate Really About?" (2007) 1, *International Journal of Communication*, p. 383

SLUIJS, J. "Network Neutrality and European Law" [2012]. *Network Neutrality and European law* Nijmegen: Wolf Legal Publishers (WLP). p.33

SORENSEN, F. "A Norwegian Perspective on European Regulation of Net Neutrality" in L. BELL, P. DE FILIPPI, *Net Neutrality Compendium: Human Rights, Free Competition and the Future of the Internet*, Springer, London, 2016, p.231 at 233

SORENSEN, F. "Specialised Services and the Net Neutrality Service Model" in L. BELLI, P. DE FILIPPI, *Net Neutrality Compendium: Human Rights, Free Competition and the Future of the Internet*, Springer, London, 2016, p.99, at 100

STROWEL, A. "Net Neutrality: What Regulation For the Internet In Europe and Beyond" in A. STROWEL, *Net Neutrality in Europe/ La neutralité de l'Internet en Europe*, Bruylant, Brussels, 2013, p.1, at 6

STYLIANOU, K. "The Persistent Problems of Net Neutrality or Why Are We Still Lacking Stable Net Neutrality Regulation" in L. BELLI, P. DE FILIPPI, *Net Neutrality Compendium: Human Rights, Free Competition and the Future of the Internet*, Springer, London, 2016, p.211, at 213

SZOKA, B. STARR, M. HENKE, J. "Don't blame big cable, it is local governments that choke broadband competition, [2013] *Wired*, 16.07.2013. Available at <http://www.wired.com/2013/07/we-need-to-stop-focusing-on-just-cable-companies-and-blame-local-government-for-dismal-broadband-competition>. Accessed on 23/03/2016

THORNGREN, B. "Net Neutrality; not as neutral as it sounds" (2006), 1, *Ericsson Business Review*, pp.35-39. Available at http://www.ericsson.com/ericsson/corpinfo/publications/ericsson_business_review/pdf/issue_no1/C_EricssonBusRev_art_no5.pdf Accessed on 03/04/2016

VAN SCHEWICK, B. FARBER, D. "Network Neutrality Nuances". (2009) 52: 2, *Communications of the ACM*. p.31

VAN SCHEWICK, B. "Towards an Economic Framework for Network Neutrality Regulation" (2007) 2, *Journal on Telecommunications & High Technology Law*, p.329

VAN SCHEWICK, B. "Network Neutrality and Quality of Service: What a Non-Discrimination Rule Should Look Like" (2015) 67,1. *Public Law and Legal Theory Working Paper Series*, Research Paper No. 2459568. Stanford Law Review, p. 3

WELLER D. WOODCOCK B. "Internet Traffic Exchange" (2013) *OECD Digital Economy Papers*, OECD, p. 21. Available at <http://www.oecd-ilibrary.org/docserver/download/5k918gpt130q.pdf?expires=1461613494&id=id&accname=guest&checksum=58D64C80E48E66346AB2DAC6A991E701>. Accessed on 27/04/2016

WOJCIK, R. "Net Neutral Quality of service Differentiation in Flow-Aware Networks" (2011) AGH University of Science and Technology, Krakow, p. 37

WU, T. "Network Neutrality, Broadband Discrimination"(2003) 2, *Journal of Telecommunications and High Technology Law*, pp. 141-179

EU Legislation

Directive 2009/136/EC of 25 November 2009 amending Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks and services, Directive 2002/58/EC concerning the processing of personal data and the protection of privacy in the electronic communications sector and Regulation (EC) No 2006/2004 on cooperation between national authorities responsible for the enforcement of consumer protection laws. *OJ L 337*, 18.12.2009, p. 11–36

Directive 2009/140/EC of the European Parliament and of the Council of 25 November 2009 amending Directives 2002/21/EC on a common regulatory framework for electronic communications networks and services, 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities, and 2002/20/EC on the authorisation of electronic communications networks and services, *OJ L 337*pp. 37–69

Regulation 2015/2120 of November 25 2015 laying down measures concerning open internet access and amending Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks and services and Regulation No 531/2012 on roaming on public mobile communications networks within the Union, OJ L 310, 26.11.2015, p. 1–18

National Legislation:

Brazil:

Lei 12965, 2014 April 23: Estabelece Princípios, Garantias, Direitos E Deveres Para O Uso Da Internet No Brasil, Available at http://www.planalto.gov.br/ccivil_03/_ato2011-2014/2014/lei/l12965.html. Accessed on 22/04/2016

Chile:

Ley nº 20.453 que consagra el Principio de Neutralidad En La Red Para Los Consumidores Y Usuarios de Internet. Available at <http://www.leychile.cl/Navegar?idNorma=1016570>. Accessed on 22/04/2016

Colombia:

Ley 1450/2011 (2011) Por La Cual Se Expide El Plan Nacional de Desarrollo 2010-2014, Available at http://www.wipo.int/wipolex/en/text.jsp?file_id=226358. Accessed on 22/04/2016

México:

Ley Federal de Telecomunicaciones y Radiodifusión. (2014). Available at <http://www.sct.gob.mx/fileadmin/Comunicaciones/LFTR.pdf> . Accessed on 22/04/2016

Netherlands:

Telecommunicatiewet. Available at <http://wetten.overheid.nl/BWBR0009950/2014-01-25>. Accessed on 22/04/2016. Accessed on 22/04/2016

Peru:

Ley 29904 (2012) de Promocion de La Banda Ancha Y Construccin de La Red Dorsal Nacional de Fibra Optica. Available at <https://www.osiptel.gob.pe/articulo/ley-29904-promocion-banda-ancha-rdnfo> Accessed on 22/04/2016. Accessed on 22/04/2016

Slovenia:

O Razglasitvi Zakona O Elektronskih Komunikacijah ZEKom.1 (2012, December 21), Available at <http://www.uradni-list.si/1/content?id=111442> Accessed on 22/04/2016

EU Jurisprudence (Chronological Order)

Judgment in *Brenner*, C-7/97, ECLI:EU:C:1998:569

Judgment in *Michelin*, T-203/01, ECLI:EU:T:2003:250

Judgment in *Microsoft*, T-201/04, ECLI:EU:T:2007:289

Judgment in *British Airways C-95/04*, ECLI:EU:C:2007:166.

Judgment in *Telia Sonera*, C-52/09, ECLI:EU:C:2011:83

Judgment in *Intel*, T-286/09, ECLI:EU:T:2014:547

Judgment in *Post Danmark I*, C-209/10, ECLI:EU:C:2012:172

Judgment in *Post Danmark II* C-23/14, ECLI:EU:C:2015:651

Foreign Case Law:

United States:

Verizon Communications Inc. v. Federal Communications Commission, 740 F.3d 623 (D.C. Cir. 2014).

National Competition Authorities Cases & Case Reports:

France:

French Competition Authority, Decision n°12-D-18 of the French Competition Council of 20 September 2012, concerning the dispute between Cogent and France Telecom over their peering agreements generated by Megaupload. Available at <http://www.autoritedelaconcurrence.fr/pdf/avis/12d18.pdf>, Accessed on 23/03/2016

United States:

FCC Decision 08-183. File EB-08-IH-1518. August 20, 2008. Available at https://apps.fcc.gov/edocs_public/attachmatch/FCC-08-183A1.pdf, Accessed on 15/04/2016. Accessed on 22/03/2016

National Competition Authorities Rules and Notices:

Canada:

Telecom Regulatory Policy CRTC, 2009-657. Ottawa, CA: Canadian Radio-television and

Telecommunications Commission, October 21, 2009. Available at: <http://www.crtc.gc.ca/eng/archive/2009/2009-657.htm>. Accessed on 22/04/2016

United States:

FCC, Report and Order, December 23, 2010, FCC 10-201. Available at https://apps.fcc.gov/edocs_public/attachmatch/FCC-10-201A1_Rcd.pdf. Accessed on 22/04/2016

FCC. Report and Order on Remand, Declaratory Ruling, and Order, March 12, 2015, FCC 15-24. Available at https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-24A1.pdf. Accessed on 22/04/2016

FCC, "Notice for Proposed Rulemaking (NPRM) in the Matter of Protecting and Promoting the Open internet" 2014.FCC-14-61A1. Available at https://apps.fcc.gov/edocs_public/attachmatch/FCC-14-61A1.pdf Accessed on 14/03/2016

Commission Communications and Guidelines

Communication from the Commission to the European Parliament, the Council, the Economic and social committee and the Committee of the Regions on "The open internet and net neutrality in Europe" COM (2011)222 final, (19.04.2011)

Guidance on the Commission's enforcement priorities in applying Art 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings. (2009) *OJ C 45, 24.2.2009, p. 7–20*

Interviews, Opening Quotes and Miscellanea

ALIERTA, C. Speech in the Spanish Confederation for Executives Summit of 2015. October 2015. Available at <https://www.youtube.com/watch?v=XM30vP4kXtY>. Accessed on 24/04/2016

European Commission, Digital Agenda in the Europe 2020 strategy, available at

EUROPEAN PARLIAMENT , Resolution of 11 December 2012 on completing the Digital Single Market, P7_TA(2012)0468 ,2012/2030(INI), Strasbourg , Available at <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P7-TA-2012-0468+0+DOC+XML+V0//EN>

EUROPEAN PARLIAMENT, Resolution of 17 November 2011 on the open internet and net neutrality in Europe, P7_TA(2011)0511, 2011/2866(RSP), , Strasbourg, Available at <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P7-TA-2011-0511+0+DOC+XML+V0//EN>

HELD, G. "Net neutrality may be a necessity" (2007) 17:1, *International Journal of Network Management*, p. 1

HERGUERA. I. "Netflix y Movistar no conectan (como quisieran)" 20/01/2016, Available at <http://nadaesgratis.es/admin/netflix-y-movistar-no-conectan-como-quisieran>. Accessed on 13/02/2016

<http://ec.europa.eu/digital-agenda/en/our-goals>, accessed on 23/04/2016

Interview of E. Schmidt quoted in D. GOLDMAN, "Why Google and Verizon's neutrality deal affects you", CNN Money, 5 August 2010. Available at http://money.cnn.com/2010/08/05/technology/google_verizon_net_neutrality_rules/. Accessed on 23/04/2016.

KROES, N. "The politics of the completing the Telecoms Single Market", Speech/13/484 30 May 2013, Available at : http://europa.eu/rapid/press-release_SPEECH-13-484_en.htm

RESEARCH PAPERS IN LAW

1/2003, Dominik Hanf et Tristan Baumé, "Vers une clarification de la répartition des compétences entre l'Union et ses Etats Membres? Une analyse du projet d'articles du Présidium de la Convention".

2/2003, Dominik Hanf, "Der Prozess der europäischen Integration in Belgien. Voraussetzung und Rahmen der Föderalisierung eines ehemaligen Einheitsstaats".

3/2003, Dominik Hanf, "Talking with the "pouvoir constituant" in times of constitutional reform: The European Court of Justice on Private Applicants' Access to Justice".

4/2003, Horst Dippel, "Conventions in Comparative Constitutional Law".

5/2003, Ludwig Krämer, "Access to Environmental Information in an Open European Society - Directive 2003/4".

6/2003, Ludwig Krämer, "Überlegungen zu Ressourceneffizienz und Recycling".

7/2003, Ludwig Krämer, "The Genesis of EC Environmental Principles".

8/2003, Takis Tridimas, "The European Court of Justice and the Draft Constitution: A Supreme Court for the Union?".

1/2004, Dominik Hanf et Pablo Dengler, "Accords d'association".

2/2004, David Mamane, "Reform der EU-Wettbewerbsregeln für Technologietransfer-Verträge: Einfahrt in den sicheren Hafen?".

3/2004, Donald Slater and Denis Waelbroeck, "Meeting Competition : Why it is not an Abuse under Article 82".

4/2004, Jacques Bourgeois and Tristan Baumé, "Decentralisation of EC Competition Law Enforcement and General Principles of Community Law".

5/2004, Rostane Mehdi, "Brèves observations sur la consécration constitutionnelle d'un droit de retrait volontaire".

1/2005, Jacques Pelkmans, "Subsidiarity between Law and Economics".

2/2005, Koen Lenaerts, "The Future Organisation of the European Courts".

3/2005, John A.E. Vervaele, "The Europeanisation of Criminal Law and the Criminal Law Dimension of European Integration".

4/2005, Christine Reh and Bruno Scholl, "The Convention on the Future of Europe: Extended Working Group or Constitutional Assembly?"

5/2005, John A.E. Vervaele, "European Criminal Law and General Principles of Union Law".

6/2005, Dieter Mahncke, "From Structure to Substance: Has the Constitutional Treaty improved the Chances for a Common Foreign and Security Policy?".

1/2006, Dominik Hanf, "Le développement de la citoyenneté de l'Union européenne".

2/2006, Vassilis Hatzopoulos, Thien Uyen Do, "The Case Law of the ECJ concerning the Free Provision of Services : 2000 – 2005".

3/2006, Dominik Hanf, "Réformes institutionnelles sans révision du traité?", (document de discussion).

4/2006, Elise Muir, "Enhancing the effects of EC law on national labour markets, the Mangold case".

5/2006, Vassilis Hatzopoulos, "Why the Open Method of Coordination (OMC) is bad for you: a letter to the EU".

6/2006, Vassilis Hatzopoulos, "The EU essential facilities doctrine".

7/2006, Pablo Ibáñez Colomo, "Saving the Monopsony: Exclusivity, Innovation and Market Power in the Media Sector".

1/2007, Pablo Ibáñez Colomo, "The Italian Merck Case".

2/2007, Imelda Maher, "Exploitative Abuses: Which Competition Policy, Which Public Policy?".

3/2007, Vassilis Hatzopoulos, "With or without you... judging politically in the field of Area of Freedom, Security and Justice?".

4/2007, Matteo Pierangelo Negrinotti, "The AstraZeneca Case".

5/2007, Vassilis Hatzopoulos, "Que reste-t-il de la directive sur les services?".

6/2007, Vassilis Hatzopoulos, "Legal Aspects in Establishing the Internal Market for services".

7/2007, Vassilis Hatzopoulos, "Current Problems of Social Europe".

1/2008, Vassilis Hatzopoulos, "Public Procurement and State Aid in National Healthcare Systems".

2/2008, Vassilis Hatzopoulos, "Casual but Smart: The Court's new clothes in the Area of Freedom Security and Justice (AFSJ) after the Lisbon Treaty".

3/2008, Takis Tridimas and José A. Gutiérrez-Fons, "EU Law, International Law and Economic Sanctions against Terrorism: The Judiciary in Distress?".

4/2008, Ludwig Krämer, "Environmental judgments by the Court of Justice and their duration".

5/2008, Donald Slater, Sébastien Thomas and Denis Waelbroeck, "Competition law proceedings before the European Commission and the right to a fair trial: no need for reform?".

1/2009, Inge Govaere, "The importance of International Developments in the case-law of the European Court of Justice: Kadi and the autonomy of the EC legal order".

2/2009, Vassilis Hatzopoulos, "Le principe de reconnaissance muTEUlle dans la libre prestation de services".

3/2009, Dominik Hanf, "L'encadrement constitutionnel de l'appartenance de l'Allemagne à l'Union européenne. L'apport de l'arrêt « Lisbonne » de la Cour constitutionnelle fédérale".

1/2010, Vassilis Hatzopoulos, "Liberalising trade in services: creating new migration opportunities?"

2/2010, Vassilis Hatzopoulos & Hélène Stergiou, "Public Procurement Law and Health care: From Theory to Practice"

3/2010, Dominik Hanf, "Vers une précision de la *Europarechtsfreundlichkeit* de la Loi fondamentale - L'apport de l'arrêt « rétention des données » et de la décision « Honeywell » du BVerfG"

1/2011, Nicoleta Tuominen, "Patenting Strategies of the EU Pharmaceutical Industry – Crossroad between Patent Law and Competition Policy"

2/2011, Dominik Hanf, "The ENP in the light of the new "neighbourhood clause" (Article 8 TEU)"

3/2011, Slawomir Bryska, "In-house lawyers of NRAs may not represent their clients before the European Court of Justice - A case note on UKE (2011)"

4/2011, Ann Fromont et Christophe Verdure, "La consécration du critère de l'« accès au marché » au sein de la libre circulation des marchandises : mythe ou réalité ?"

5/2011, Luca Schicho, "Legal privilege for in-house lawyers in the light of AKZO: a matter of law or policy?"

6/2011, Vassilis Hatzopoulos, "The concept of 'economic activity' in the EU Treaty: From ideological dead-ends to workable judicial concepts"

1/2012, Koen Lenaerts, "The European Court of Justice and Process-oriented Review"

2/2012, Luca Schicho, "Member State BITs after the Treaty of Lisbon: Solid Foundation or First Victims of EU Investment Policy?"

3/2012, Jeno Czuczai, "The autonomy of the EU legal order and the law-making activities of international organizations. Some examples regarding the Council most recent practice"

4/2012, Ben Smulders and Katharina Eisele, "Reflections on the Institutional Balance, the Community Method and the Interplay between Jurisdictions after Lisbon"

5/2012, Christian Calliess, "The Future of the Eurozone and the Role of the German Constitutional Court"

1/2013, Vassilis Hatzopoulos, "La justification des atteintes aux libertés de circulation : cadre méthodologique et spécificités matérielles"

2/2013, George Arestis, "Fundamental rights in the EU: three years after Lisbon, the Luxembourg perspective"

3/2013, George Nicolaou, "The Strasbourg View on the Charter of Fundamental Rights"

4/2013, Jean Sentenac, "L'autorisation inconditionnelle en phase II - De l'imperfection du règlement 139/2004"

5/2013, Vassilis Hatzopoulos, "Authorisations under EU internal market rules"

6/2013, Pablo González Pérez, "Le contrôle européen des concentrations et les leçons à tirer de la crise financière et économique"

7/2013, Michal Bobek & David Kosař, "Global Solutions, Local Damages: A Critical Study in Judicial Councils in Central and Eastern Europe"

8/2013, Pablo González de Zárate Catón, "Disclosure of Leniency Materials: A Bridge between Public and Private Enforcement of Antitrust Law"

9/2013, Gianni Lo Schiavo, "The Judicial 'Bail Out' of the European Stability Mechanism: Comment on the Pringle Case. Case C-370/12, Thomas Pringle v. Government of Ireland, Ireland and The Attorney General, [2012] not yet reported"

1/2014, Ramses A. Wessel and Steven Blockmans, "The Legal Status and Influence of Decisions of International Organizations and other Bodies in the European Union"

2/2014, Michal Bobek, "The Court of Justice of the European Union"

3/2014, Michal Bobek, "Judicial Selection, Lay Participation, and Judicial Culture in the Czech Republic: A Study in a Central European (Non)Transformation"

1/2015, Frédéric Allemand, "La Banque centrale européenne et la nouvelle gouvernance économique européenne : le défi de l'intégration différenciée"

1/2016, Inge Govaere, "TTIP and Dispute Settlement: Potential Consequences for the Autonomous EU Legal Order"

2/2016, Gareth Davies, "Migrant Union Citizens and Social Assistance: Trying to Be Reasonable About Self-Sufficiency"

3/2016, Miguel Ángel de Diego Martín, Net Neutrality: Smart Cables or Dumb Pipes?
An overview on the regulatory debate about how to govern the network