What tools could be added to BERECs powers to protect net neutrality in Europe? A study that comprises the importance of net neutrality and explores possible additions to BEREC's toolset through the comparison with ACER.

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List of Abbreviations

1. ACER: Agency for the Cooperation of Energy Regulators
2. BEREC: Body of European Regulators
3. EC: European Commission
4. EU: European Union
5. IRA: Independent Regulatory Authority (used in the case of energy). The acronym IRA is used for clarity in the text.
6. ISP: Internet Service Providers
7. MS: Member State
8. NRA: National Regulatory Authority (used in the cases of electronic communications)
9. USD: Universal Service Directive
10. QoS: Quality of Service

Chapter 1: Introduction

1.1.Background and significance

> "Today, the Internet is key to almost any social or economic activity, a true value creator that reshapes the economy and society. This trend is irreversible and in 10 years, the Internet will be even more essential for society and economy worldwide."[1]

With the above words, the European Commission established the importance of the Internet access in Europe and all around the globe. With such great power comes great responsibility. As the Internet evolves into the most valuable medium for sharing information, there are reasons to regulate it and ensure an adequate level of protection for end users. One is that the nature of the Internet is flexible and can be changed.[2] Therefore, principles that dictate its fair and appropriate use as well as management and development should ensure that it remains a useful tool.

Given the nature of the Internet, Tim Wu (2003) conceived the net neutrality principle.[3] Net neutrality requires the equal treatment of data transmitted over the Internet by Internet service providers (ISPs).[4] The principle ensures that the management of data traffic by ISPs is transparent, fair and driven by the rights of end users.

The management of data traffic implies that ISPs possess techniques to control what arrives most rapidly on the computer screens of end users, whether they are content providers (i.e. websites) or consumers. This potential enables ISPs to slow down one website in relation to another or even block content that is unwanted. Without the rule of net neutrality, the ISPs could make decisions based on financial interests, opaque agreements or even political pressure. Moreover, ISPs can differentiate between users, meaning that a user with basic Internet service would endure a relatively poor connection so that a user with a better contract would receive better quality.[5] The end user would not recognise the difference between a poor connection and the unfair management of the network by ISPs.

The potential mismanagement of data traffic can influence society by limiting people's rights online and by limiting access to the Internet. Moreover, these limitations cannot easily be identified by end users. The data treatment can seriously affect the choices of end users, and as shown in Chapter 2, it can negatively affect their human rights. Such mismanagement may also have consequences for the competition among ISPs and among content providers.

A second reason for ensuring the protection of end users is access to the Internet. As the Internet is a highly valuable tool in today's society, there should be a safeguard to ensure the end users' access. Access has three aspects: affordability, functional Internet service (quality), and connection to all locations deemed reasonable.[6] Net neutrality is

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[1] European Commission, *Next Generation Internet Initiative*, accessed on 20/01/2019, available on https://ec.europa.eu/digital-single-market/en/next-generation-Internet-initiative

[2] Lemley MA and Lessig L, *'The End of End-to-End: Preserving the Architecture of the Internet in the Broadband Era.'* (2001) 48(4) UCLA L Rev 925, p.6

[3] Wu, Tim, *Network Neutrality, Broadband Discrimination*. Journal of Electronic communications and High Technology Law, Vol. 2, p. 141, 2003. Available at SSRN: http://dx.doi.org/10.2139/ssrn.388863

[4] Hereinafter the Internet Service Providers are ISPs.

[5] The main behaviour that net neutrality and Open Internet Access regulation aim to tackle.

[6] Art 1 and art 22 Directive 2002/22/EC of the European Parliament and of the Council of 7 March

connected to the quality aspect.[7] Quality is a critical component of access because without quality, there is no Internet access.[8] Moreover, the Internet provides a service of general economic interest, which means all citizens of Europe should have access to it.[9] [10]

The Open Internet Access Regulation was implemented to establish the net neutrality principle under the European electronic communications framework.[11]The implementation of the regulation falls under the competences of the National Regulatory Authorities (NRAs) in every member state that has rule-making and enforcement powers.[12] The overarching body is the Body of European Regulators for Electronic Communications (BEREC), which is responsible for supervising and coordinating the NRAs but has no binding powers.[13] BEREC ensures that the European regulatory framework for electronic communications is independent, consistent, and of high quality.[14]

It is essential to understand the powers of BEREC in the context of implementing and enforcing the technical regulation, which addresses only ISPs across Europe. In this regard, a lot of literature analyses net neutrality but it does not refer sufficiently to BEREC's powers and tasks. In the Compendium of net neutrality, several policy approaches for achieving net neutrality are proposed but the document does not address BEREC.[15] Marsden offered a critical view regarding net neutrality legislation in Europe.[16] Marsden described the structure of BEREC mainly in terms of accountability and the internal dialogue regarding the development of the guidelines.[17] There is little reference to BEREC's tasks and powers. Earlier, Hou focused on the competition aspect of electronic communications and mentioned BEREC only at specific points; when

2002 on universal service and users' rights relating to electronic communications networks and services amended by Directive 2009/136/EC of the European Parliament and the of the Council amending Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks and services.

[7] BEREC, Guidelines for quality of service in the scope of net neutrality, BoR (12)131, 2012

[8] Olga Batura, *Universal Service in WTO and EU Law Legal Issues of Services of General Interest Liberalisation and Social Regulation in Electronic communications*, Asser Press, 2015 p.162

[9] Ibid. p 15

[10] Art 36 of the Charter of fundamental human rights of the European Union, OJ C 326, 26.12.2012 (chapter 2 also)

[11] Regulation (EU) 2015/2120 of the European Parliament and of the Council of 25 November 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 (EU) No 531/2012 on roaming on public mobile communications networks within the Union (Text with EEA relevance). Hereinafter: "Open Internet Access regulation"

[12] NRAS and their role will be addressed in chapter 3

[13] Art 4, Regulation (EC) No 1211/2009 of the European Parliament and of the Council of 25 November 2009 establishing the Body of European Regulators for Electronic Communications (BEREC) and the Office (Text with EEA relevance).

[14] European Commission, Regulatory framework for electronic communications in the European Union, European Union, 2010, available on https://ec.europa.eu/digital-single-market/sites/digital-agenda/files/Copy%20of%20Regulatory%20Framework%20for%20Electonic%20Communications%202013%20NO%20CROPS.pdf

[15] Belli, Luca and De Filippi, Primavera (eds.), *Net Neutrality Compendium: Human Rights, Free Competition, and the Future of the Internet*, Springer, 2015, for example in chapter 19 someone can find the best policy approach.

[16] Christopher Marsden, *Net neutrality from Policy to law to regulation*, Manchester University Press, 2017

[17] Ibid. p.128

BEREC was still ERG (Chapter 3).[18] Savin focused on the electronic-communication policy and slightly on NRA competences, and stated that NRAs were more important than BEREC.[19]

When the literature does refer to BEREC powers and tasks, there is no focus on net neutrality. In this regard, Zinzani explored the effect of regulatory networks on the integration of the internal market,[20] and Busuioc focused on the accountability of the European agencies and networks.[21] Levi-Faur identified the structures of various bodies to classify their powers at the political level.[22] In the context of universal service, Batura addressed it in Europe and the WTO,[23] discussing the universal service main aspects and did not examine this issue in relation to BEREC. Batura also reported that no common principles have been established for quality across Europe.[24]

Through this literature review it was established that there is no movement to understand BEREC from the perspective of net neutrality. Some researchers have highlighted the importance of net neutrality and the policy approach; whereas others have criticised the legislation. The pragmatic implementation and enforcement of the Open Internet Access regulation, at a European level, has not been approached sufficiently. This point is crucial if the law is to remain useful and not end up going overlooked after a few years. After configuring the powers of the body, which are limited to soft law instruments, natural questions arise as to what else could be added to BEREC's toolset to guard net neutrality, consistently. This need exists for two reasons. The first is to harmonise and form the Digital Single Market (DSM); the second is the importance of the net neutrality principle (see Chapter 2) and of the Internet at a European level.

The answer is given by understanding the Open Internet access regulation as well as BEREC itself. In addition, comparison with another similar – but stronger – body that also aims at the harmonisation and consistent application of European law is helpful. The agencies and networks in Europe establish a level of regulation between national actors and the European institutions. In every sector, they have slightly differentiated powers, tools and tasks, and more rarely binding powers.[25] Therefore, such a comparison can highlight different tools that could be useful for net neutrality.

The Agency for the Cooperation of Energy Regulators (ACER) was chosen above all

[18] In the context of imposing remedies to dominant players, Liyang Hou, Competition Law and Regulation of the EU Electronic Communications Sector, A comparative legal approach, Wolters Kluwer, 2012, p 193

[19] "While BEREC plays a prominent role, NRAs remain the key motor for the enforcement of the EU telecoms laws." Andrej Savin, *EU Electronic communications Law*. Edward Elgar Publishing, 2018, Chapter 3.3.2 NRAs in the present framework

[20] Marco Zinzani, *Market Integration through 'Network Governance': The Role of European Agencies and Networks of Regulators*, Intersentia, 2012

[21] Madalina Busuioc, *European Agencies: Law and Practices of Accountability*, Oxford University Press, 2013.

[22] David Levi Faur, *Regulatory Networks and regulatory agencification: towards a Single European Regulatory Space*, 2013

[23] World Trade Organisation

[24] Batura (n 8), p 162

[25] Busuioc (n 21), p 23

the other regulatory agencies for three reasons.[26] First, electricity is a network industry. Network industries have network infrastructure; they rely on local infrastructure, having the aim and need to be interconnected.[27] The energy network industries have the ultimate aim of being merged into internal markets in Europe.[28] This means that harmonisation is necessary, at least for some parts of the legislation.[29] Electronic communications is also a network industry.[30] Also, both electronic communication and energy services belong to the category of general economic interest services[31] and have financial provisions that safeguard the access to these services.[32] Therefore, both sectors could have developed some ideas on the quality of access. Unfortunately, this was not the case (Chapter 4).[33]

Second, ACER and BEREC were established in the same period and were reformed at the same time.[34] They have similar underpinning principles and structures (see chapters 3 and 4), even though one is a network and the other is an agency. However, ACER has more tools and decision-making powers than BEREC. Therefore, the comparison to ACER could reveal useful tools for BEREC.

Third, other factors to consider are subsidiarity and proportionality. These two principles play a vital role in the delegation of powers, where there are two established levels of powers, namely European institutions and member states (their NRAs). Agencies and networks create the connection between these two levels.[35] [36] To legislate and delegate powers to European bodies, the European Commission should follow the principles of subsidiarity and proportionality.[37] In electronic communications as well

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[26] Regulation (EC) No 713/2009 of the European Parliament and of the Council of 13 July 2009 establishing an Agency for the Cooperation of Energy Regulators (Text with EEA relevance)

[27] Scott Wallsten, George Clarke, Luke Haggarty, Rosario Kaneshiro, Roger Noll, Mary Shirley, Lixin Colin Xu, *New Tools for Studying Network Industry Reforms in Developing Countries*: *The Electronic communications and Electricity Regulation Database*, World Bank Policy Research, 2004, p.2

[28] Factsheets of the European Union, Internal Energy Market, available on http://www.europarl.europa.eu/factsheets/en/sheet/45/internal-energy-market

[29] Zinzani (n 20)

[30] DSM "*The European Commission has identified the completion of the DSM as one of its 10 political priorities. Vice-President Andrus Ansip leads the project team "A Connected Digital Single Market*". Accessed on 6/03/2019, available on https://ec.europa.eu/digital-single-market/en/policies/shaping-digital-single-market

[31] Services of General Economic Interest Opinion Prepared by the State Aid Group of EAGCP, June 29 2006, accessed on 6/03/2019, available on http://ec.europa.eu/competition/state_aid/overview/public_services_en.html (related links), p2

[32] Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC (Text with EEA relevance)

[33] See chapter 4 Public Service Obligation

[34] See the proposals on chapters 3 and 4, BEREC and ACER respectively

[35] For decentralised agencies: "*They also support cooperation between the EU and national governments* (…)", Types of Agencies, Decentralised Agencies, accessed on 6/3/2019, available on https://europa.eu/european-union/about-eu/agencies/decentralised-agencies_en

[36] Blauberger, M., and Rittberger, B. *Conceptualizing and theorizing EU regulatory networks*. *Regulation & Governance*, 9: 367–376, (2015), p 369

[37] European Parliament, The principle of subsidiarity, art5(3) Subsidiarity and art 5(4) Proportionality TEU, accessed on 23/3/2019, available on http://www.europarl.europa.eu/ftu/pdf/en/FTU_1.2.2.pdf , "*The principles of subsidiarity and proportionality govern the exercise of the EU's competences. In areas in which the European Union does not have exclusive competence, the principle of subsidiarity seeks to safeguard the ability of the Member States to take decisions and action and authorizes intervention by the Union when the objectives cannot be sufficiently achieved by Member States*."

as the electricity sector, both member states and the Commission have shared competences.[38] [39] Member states have never wished for a centralised European regulator.[40] As a general rule, the Union intervenes when member states fail to achieve the objectives of the law sufficiently.[41] Therefore, the two bodies in electronic communications and energy have faced similar issues and problems.

1.2. Question

This thesis comprises one main question: "What tools could be added to BEREC's powers to protect net neutrality in Europe?" However, to answer this, other questions must be clarified: 1. What is net neutrality and why is it important? 2. What powers does BEREC have? 3. What powers does ACER have? All the questions combined clarify the extent of the BEREC powers in the course of Net Neutrality. They help to determine if there are any tools to be added for better supervision and enforcement of the net neutrality principle, outside the electronic communications scope also.

1.3. Methodology

This thesis combines the substantial provisions of Open Internet Access regulation and examines whether additions or changes should be made to the tools of BEREC. Also, it aims at determining measures that are feasibly assigned to BEREC and do not disturb the principle of subsidiarity. The comparison to ACER will help create a new pool of tools that can be useful to BEREC.

For the question: What is net neutrality and why is it important? The thesis explores the Internet functions, the Open Internet Access regulation, its connection to universal access service, and its influence on privacy and freedom of speech in the European jurisdiction. The approach of this description is based on human rights and on consumer protection. The discussion connects the features of the Internet, the applicable legislation, and privacy and freedom of expression. The description of the European legislative measures considers both the Open Internet Access regulation,[42] the Universal Service Directive,[43] the guidelines of BEREC,[44] and other official documents

[38] Art 4 (a) Internal market and (h) trans-European networks, Consolidated version of the Treaty on the Functioning of the European Union
[39] Art 4 (a) Internal market, (h) trans-European networks (i) energy, Consolidated version of the Treaty on the Functioning of the European Union
[40] Blauberger and Rittberger (n 36), p.369: "*Whenever Member State governments are concerned about the redistributive consequences if EU regulatory policies, they jealously guard their remaining autonomy in implementation*."
[41] Factsheets of the European Union, The principle of Subsidiarity, accessed on 06/03/2019, available on http://www.europarl.europa.eu/factsheets/en/sheet/7/the-principle-of-subsidiarity
[42] Open Internet Access regulation (n 11)
[43] Directive 2002/22/EC of the European Parliament and of the Council of 7 March 2002 on universal service and users' rights relating to electronic communications networks and services amended by Directive 2009/136/EC of the European Parliament and the of the Council amending Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks and services.
[44] BEREC Guidelines on the Implementation by National Regulators of European Net Neutrality Rules, available for download on https://bereceuropa.eu/eng/document_register/subject_matter/berec/regulatory_best_practices/guidelines/6160-berec-guidelines-on-the-implementation-by-national-regulators-of-european-net-neutrality-rules

from the Commission, BEREC or other organisations (such as EDPS).[45] Moreover, the Fundamental Human Rights Charter and the Convention of Human Rights are mentioned. Academic literature such as the Net neutrality Compendium of Human Rights is referred to,[46] to highlight the connections that the principle has with competition and human rights. The aim of the chapter is to understand why this regulation is important and what kind of tool could help BEREC protect net neutrality across Europe.

The main question is split into two descriptive parts, with the aim of performing a functional comparison. This leads to an answer for the central question. In addition, to answer the central question, conclusions are drawn from the second chapter. Chapter three describes BEREC in detail and its general competences in the electronic communications regime, to describe the body's powers. In chapter four, ACER (the competent agency in the energy regime)[47] is used for the comparison and is described in the same way BEREC is. To draw valid conclusions, each chapter that describes the body also includes an overview of the sectors – electronic communications for BEREC, and electricity for ACER – and their national authorities, the NRAs and Independent Regulatory Authorities (IRAs) respectively. The IRAs are regulatory authorities in the energy sector, which play the same role as the NRAs.[48]

The section on the energy sector comprises only an electricity overview; the points made through this comparison exclude the gas legislation. In the overview of electronic communications and electricity, there is reference to universal service obligations and the public service obligation, respectively. The quality of access in each context is examined.

1.4. Overview of the chapters

The thesis comprises five chapters, which are (as indicated above) presented in two main parts. Part one comprises chapter two and answers the question about what net neutrality is. Chapter two describes the functions of the Internet that net neutrality protects, its ties to quality provisions, the implementation of the principle in the European electronic communications framework,[49] and how the lack of this principle affects competition and human rights. The main focus is on the rights to privacy and freedom of expression. The second part comprises chapters three and four. The third chapter contains an overview of the electronic communications sector and NRAs. A description of BEREC follows, divided into the history, structure, and tasks of the body, and the Commission's proposal to change it.[50] The fourth chapter has the same structure

[45] The proposal for the reform of BEREC, the general framework etc.
[46] Busuioc (n 21)
[47] Agency for the Cooperation of Energy Regulators, hereinafter ACER.
[48] IRAs are the National Regulatory Authorities that are responsible for the implementation of the electricity and gas framework. They are also called NRAs, but for the shake of clarity, they are here called Independent Regulatory Authorities (IRAs). Electricity Directive 2009/72/EU refers to them directly in art 3.
[49] *Electronic communications Framework*, accessed on 30/01/2019, available on https://ec.europa.eu/digital-single-market/sites/digital-agenda/files/Copy%20of%20Regulatory%20Framework%20for%20Electonic%20Communications%202013%20NO%20CROPS.pdf
[50] Proposal for a Regulation of the European Parliament and of the Council establishing the Body of European Regulators of Electronic Communications (BEREC) - COM(2016)591

but described the energy sector, IRAs and ACER and its proposal for reform.[51] The fifth chapter contains an analysis of the tools and answers the central question of this thesis. Finally, the sixth chapter presents the conclusions.

[51] Proposal for a regulation of the European Parliament and of the Council establishing a European Union Agency for the Cooperation of Energy Regulators (recast), COM(2016) 863, final

Chapter 2: What is net neutrality and why is it important?

2.1 Introduction

With the aim of answering the central question of this thesis, it is important to clarify the concept of the net neutrality principle. The first part of this chapter presents the basic notion of two features of the Internet, quality-of-service requirements and net neutrality (based on definitions in European legislation) in relation to the function of the Internet.[52] This is followed by the practices used by ISPs and related to net neutrality: what they are, how they are used and when they are permitted, based on the Open Internet Access regulation. This description fosters an understanding of how competent authorities should guard the principle. The second part of this chapter addresses the impact of the principle on human rights such as privacy and freedom of speech, and on competition law.

2.2 Features of the Internet

To understand the meaning of net neutrality, one needs to be aware of two technical features or principles of the networks. The definition of "Internet" is a network of computer networks.[53] The Internet functions at a physical level of networks, which are cables connected to each other and then connected to routers and end-points.[54] Two features of the design of networks are important for net neutrality.

The first feature is related to the technical way that the information is sent over the network cables, which presents the decentralised character of the networks. The data travel in small volumes or data packets.[55] All data packets travel over the networks in the same form, no matter which application they arrive from. The information is disassembled from the sender's equipment and is later reassembled at its destination, with the routers in between giving directions. This "*design established an open, non-discriminatory and general-purpose network, decentralising the definition and implementation of the network functions – i.e. the Internet's intelligence – at the end user level."*[56]

The second feature of the Internet is a method called "best effort delivery".[57] Best effort delivery determines the way the packets are arranged to travel over the networks.[58] Fundamentally, it is the principle of "first come, first served".[59] The drawback is that it

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[52] Open Internet Access Regulation 2120/2015 (n 11)
[53] J. Naughton, *The evolution of the Internet: from military experiment to General Purpose Technology*, Introduction, 2016, available at https://doi.org/10.1080/23738871.2016.1157619
[54] Emmanouil Tranos, *The Geography of the Internet Infrastructure in Europe*, Newcastle, 2009, p. 31
[55] Rus Shuler, How Does the Internet Work? 2002, Pomeroy IT Solutions. Accessed on 16/8/2019, available on https://web.stanford.edu/class/msande91si/wwwspr04/readings/week1/InternetWhitepaper.htm
[56] Belli and others (n 15) p 15
[57] R Braden, D Clark, S Shenker, Integrated services in the Internet architecture: an overview, 1994 - rfc-editor.org
[58] Ibid.
[59] Ibid. the packet that arrives first is prioritised independently of other factors.

does not guarantee the successful arrival of the data in every delivery.[60] These two features – data packets travelling in the same form and best effort delivery – combined have created the dynamic concept of the Internet.

2.3 The expansion of the Internet

The Internet is indisputably the most rapidly expanding medium ever witnessed by humanity.[61] In the past three years, it has grown and continues to grow (in 2019 and 2020) at least 168% according to the estimations of the European Commission.[62]

This expansion has generated congestion within the networks which affects the Internet. The use of applications that transmit videos or live images, such as Skype and YouTube, and consequently the creation of heavier loads (more data packets) have generated bottlenecks[63] and congestion[64] in the networks. This can cause the failure of deliveries. A heavier load does not mean the data packets are larger or different but that there are more of them.[65] During peak hours, networks may become congested and malfunction, degrading the Internet experience of users. The above developments prompted the active management of the ISPs, to manage congestion and bottlenecks, which also meant that ISPs started to move away from the best effort delivery.

2.4 Net neutrality in Europe: The 2120/2015 Open Internet Access Regulation

2.4.1 Introduction and Universal Access

The European Commission has stated that the Internet is the most important tool[66] and is the cornerstone of the Digital Single Market (DSM). The notion of DSM advocates that the European markets should unite and digitally become uniform; this is one of the top priorities in the EU.[67] The importance of the Internet for the EU highlights the aim of protecting and developing it. ISPs can actively change what is transmitted to end users and it is acknowledged that some of this involvement can be detrimental for online access. In the EU, Open Internet Access regulation regarding the Internet incorporates net neutrality in the framework of electronic communications, to ensure Internet access.

Before the development of Open Internet Access Regulation, the core of net neutrality was transparency and quality provisions. These were catered for in the Universal Service Directive and the amending Directive 2009/136. According to the Universal

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[60] Ibid.
[61] Lemley and Lessig (n 2)
[62] European Commission, *Telecoms Factsheet*, accessed on 28th of February, available for download at https://ec.europa.eu/digital-single-market/en/news/factsheet-telecoms
[63] Bottleneck: A term for a point in a system, device, or transmission that slows the rate of the communication, below the capabilities of other links in the system. A bottleneck can limit the upper speed. J.K. Petersen, *the electronic communications Illustrated dictionary*, CRC Press
[64] "*Congestion: The condition that arises when a system or network experiences a level of offered calling activity or message traffic that exceeds its capacity*" Ray Hora, *Webster's New World, Telecom Dictionary*
[65] Braden and others (n 57)
[66] EC, Next Generation Internet Initiative (n 1)
[67] "*The European Commission has identified the completion of the DSM as one of its 10 political priorities. Vice-President Andrus Ansip leads the project team "A Connected Digital Single Market*". Accessed on 6/03/2019, available on https://ec.europa.eu/digital-single-market/en/policies/shaping-digital-single-market

Service Directive (USD), member states must ensure that everyone has access to the telephone and Internet at affordable prices and reasonable quality (also in Chapter 3) and thus universal service arises from the obligation on member states to ensure that residents have access to (telephone services and) the Internet. These requirements arise from the right to access services of general economic interest.[68] Also, USD empowers the informed choice of a provider as transparency. It suggests parameters to measure the quality of service (QoS) and gives discretion to the NRAs to define parameters in their area.[69]

Apart from the universal service that can be imposed on selected providers to safeguard access, USD introduces general provisions for transparency and quality. Articles 20–22 of the amended directive refer to QoS and the obligation arising from it. Generally, Article 20 requires up-to-date comprehensible information to be given to the consumer, including quality parameters.[70] This obligation ensures that the contract of the end user contains at least the prices and rates, actions by the ISP that might limit access to the network, and available speeds (minimum and maximum).[71] Article 21 imposes the obligation to document these parameters and their publication to ensure transparency.[72] Article 22 focuses on quality and gives NRAs the discretion to take action for imposing minimum quality standards on providers (not all).[73] One problem is that the directive does not impose these standards on all providers.[74] Batura commented that quality requirements are not monitored by the NRA if there is no minimum requirement imposed or universal service access obligation.[75]

USD was the first to establish that quality should be achieved even regarding the least functional Internet access, when universal service is established. It also established that end users should be aware of the ISP's minimum and maximum speeds available to them.[76] Therefore, it was necessary to define and understand the parameters used to measure quality so that NRAs can define their national QoS in a standardised manner.

BEREC identifies QoS requirements as technical parameters, but includes other parameters outside the scope of ISP control.[77] Frequently mentioned QoS parameters include the delay of a packet at the final destination (jitter), the non-arrival of the packet (packet loss), and the capacity of the network (the bit rate at which packages can be sent).[78] These QoS requirements are important because they are indicators for measurement and monitoring of the traffic by ISPs and the quality of Internet access. Moreover, these parameters are used to divide applications into categories. For

[68] USD (n 43) and (n 10), as discussed in Chapter 3, member states can designate the obligation to offer Internet (or telephone) services at an affordable price and good quality, and in remote locations if the request is reasonable.
[69] USD (n 43) art 22(2)
[70] USD (n 43) art 20
[71] USD (n 43) art 20(1))
[72] USD (n 43) art 21
[73] USD (n 43) art 22
[74] USD (n 43) art 22 (3)
[75] Batura (n 8) p 173-174
[76] USD (n 43) rec 6
[77] BEREC guidelines for QoS (n 7) p.15, In the thesis, the definition by BEREC and USD is used. The strict definition of "quality of service" is the technical parameters; however, USD and BEREC also refer to other parameters, possibly outside the control of the ISP, that give experiences to the user.
[78] Batura (n 8), p.168

example, VoIP and real-time applications are not resilient to packet loss thus belonging to a category that needs specific QoS.[79] It is argued that QoS signalled the end of best effort delivery practice, because with QoS, differentiated treatment for different categories is applied for the arrangement of the packets.[80]

The Open Internet Access regulation aligns with the existing transparency obligation imposed by the USD.[81] According to recital 18 of the Open Internet Access regulation, providers should inform end users of the impact of traffic management practices that can affect their access, in an understandable manner. Specifically, the ISPs must explain the impact of limitations (volume or speed) on their service, and how other bundled services can affect Internet access.[82] The contract should also specify the range of minimum and maximum speed, and the choices consumers have if the provider does not offer what the contract promises.[83]

Therefore, when an NRA wants to assess the techniques and practices of ISPs, it can assess the QoS and information given to end users by those ISPs.[84] Although QoS is related to net neutrality, two pieces of legislation are not connected. The USD is a directive, whereas Open Internet Access is a regulation. Another connection between the two laws is the transparency obligation for end users and the quality parameters. However, the regulation applies to all ISPs, not only to those selected by the NRAs either for universal service or for minimum requirements in the context of the USD. For BEREC and net neutrality, the obligations imposed by USD are additional and they apply to this situation.[85]

The new directive envisaged by the Commission[86] will form the electronic communication code. It does not foresee imposing a minimum speed for providers other than the ones designated for universal service.[87] The new directive keeps the definition of "functional Internet access", which is described by a minimum set of services that should be functional through Internet access, when there is reason for universal service.[88] This version of universal access also imposes a leaner framework for entities to work on. It obliges member states to use methods and parameters for measuring QoS and it also obliges members to have a tool for comparison of tariffs and speeds. In this context, the transparency obligation is also reinforced.[8990]

[79] BEREC guidelines for QoS (n 7) p. 19, and Open Internet Access regulation (n 11), rec9
[80] Belli and others (n 15) p 76
[81] USD (n 43) art 20 and (n 11) art 4
[82] Open Internet Access regulation (n 11) art 4(1)
[83] Open Internet Access regulation (n 11) art 4(1)
[84] Open Internet Access regulation (n 11) art 5(1) and (n 44) p 28, p 40
[85] Net neutrality guidelines (n 44) p. 31
[86] Proposal for a Directive of the European Parliament of the Council establishing the European Communications Code, Brussels, 14.9.2016 COM (2016) 590 final, available on https://ec.europa.eu/transparency/regdoc/rep/1/2016/EN/1-2016-590-EN-F1-1.PDF
[87] Proposal for ECC (n 86) art 97 of the quality proposal code
[88] Proposal for ECC (n 86) art 79, a minimum set of applications that could be supported via the functional Internet access, (The minimum set of services is not defined yet in the ANNEX)
[89] Proposal for ECC (n 86) art 95
[90] Proposal for ECC (n 86) art 94, Notably, article 94 on the level of harmonisation does not allow stricter measures for consumer protection that differ from, or are not provided by, the code

2.4.2 Scope, Measures and Practices in Open Internet Access Regulation

The Open Internet Access Regulation establishes its scope by stating that its aim is to "*safeguard equal and non-discriminatory treatment of traffic in the provision of Internet access services and related end users' rights.*"[91] The regulation applies to the providers of public communication networks.[92] The providers of Internet – ISPs – that offer Internet services belong to this category. These providers operate at a retail level. The regulation also treats consumers and content providers as end users.[93] When there is reference to Internet access services, this does not regulate extra or other related products for Internet access but rather the basic Internet service or subservice offered by the ISP.[94] In the text, it is also clear that harmful content is not regulated by the Open Internet Access Regulation.[95]

The regulation contains three articles conveying the reasonable and exceptional management measures that ISPs should follow when they deliver their services. These include specialised services, commercial practices and general obligations.[96] Article 3 shapes the general rule of the end user's right, by stating that they have

> "[T]he right to access and distribute information and content, use and provide applications and services, and use terminal equipment of their choice, irrespective of the end user's or provider's location or the location, origin or destination of the information, content, application or service, via their Internet access service." [97]

2.4.3 (Traffic) Management Measures

According to recital 8 of the regulation, "*when providing Internet access services, providers of those services should treat all traffic equally without discrimination, restriction or interference, independently of its sender or receiver, content, application or service, or terminal equipment*."[98] However, as long as the end user's rights are not harmed, providers can use reasonable measures to manage the network efficiently.

The sections (2.4.2.3 and 2.4.2.4) include a description of the measures deemed reasonable and those that are exceptional, when providers offer basic Internet access or any other service that substitutes Internet access.[99]

2.4.4 Reasonable measures

The legislation allows ISPs to take reasonable measures to manage the services offered to end users. For management techniques to be considered reasonable, specific requirements need to be fulfilled. They need to be transparent, non-discriminatory, and proportionate; also, they cannot be based on commercial considerations.[100] The reasonable traffic management practices do not require such practices to be invasive

[91] Open Internet Access regulation (n 11) art 1
[92] Open Internet Access regulation (n 11) rec 4
[93] Net neutrality guidelines (n 44) p 4
[94] Ibid
[95] Open Internet Access regulation (n 11) rec 6
[96] Open Internet Access regulation (n 11) art 3
[97] Open Internet Access regulation (n 11) art 3(1)
[98] Open Internet Access regulation (n 11) rec 8
[99] Net neutrality guidelines (n 44) p.6
[100] Open Internet Access regulation (n 11) rec 9

regarding the details of the travelling packet.[101]

The general rule is that ISPs can implement traffic management practices efficiently to manage their network capacities. However, the measures taken should be communicated to the public in an understandable manner. This is the transparency obligation that the ISPs have when they use management techniques. [102] To assess whether a measure is transparent, ISPs need to provide information about the traffic management practices and the impact they have both based on a contract with an end user and on the legal obligation to publish information.[103]

The non-discriminatory nature of the measure dictates that similar situations regarding similar technical QoS requirements[104] should receive similar treatment. Objectively different situations can be treated in different ways if such treatment is justified.[105] In other words, applications can be categorized as time-sensitive, having specific parameters that need to be in place to perform. A traffic category will contain a flow of packets from applications having similar QoS service. For example, such a category may consist of real-time applications requiring a short delay between sender and receiver.[106] The non-discriminatory feature ensures that applications from the same category are not picked and treated differently than others among the same category.

The third requirement is proportionality.[107] A proportionate measure must have a legitimate aim. Proportionality dictates that the techniques should protect people's rights but also serve the ISP.[108] When there are two data-traffic measures that are effective, but the first one is intrusive for the consumer and the second is not, the ISP should always choose the second option.[109] The traffic management measure has to be appropriate, to balance the competing requirements of different traffic categories or the competing interests of different groups (e.g. video applications).[110]

The proportionality feature contains the element of the necessary duration of a measure. The long duration of a measure that is no longer necessary does not seem proportionate.[111] When a traffic measure is imposed permanently, or on a recurring basis, the nature of its necessity is reviewed by the competent NRA.[112]

Moreover, it is evident in both the law and the guidelines that ISPs should generally avoid monitoring the specific content of the data traffic.[113] However, they can monitor the labels that the IP protocol provides them. The IP protocol by principle only uses the essential information for the packet to be transmitted, and thus is not considered a

[101] Open Internet Access regulation (n 11) rec 10
[102] Open Internet Access regulation (n 11) art 4
[103] Net neutrality guidelines (n 44) p 16, On the Internet access service
[104] Net neutrality guidelines (n 44) Quality of Service requirements, also stated in the contracts of the ISPs.
[105] Net neutrality guidelines (n 44) p 16, (n 11) rec 9
[106] Net neutrality guidelines (n 44), p.17
[107] Open Internet Access regulation (n 11) art 3
[108] Net neutrality guidelines (n 44) p. 16
[109] Ibid.
[110] Ibid.
[111] Open Internet Access regulation (n 11) art 3
[112] Net neutrality guidelines (n 44) p.18
[113] Open Internet Access regulation (n 11) rec 10

violation. [114]

A measure that is proportionate, non-discriminatory and non-intrusive is a practice that is allowed in the context of data management. An example is data-traffic compression, if used for all packets of the same category.[115] The same measure is not proportionate and non-discriminatory if used only for a specific application and not handled generically, because that would favour certain applications or content.

2.4.5 Exceptional Traffic measures

Exceptional traffic measures are "*blocking, slowing down, altering, restricting, interfering with, degrading or discriminating between specific content, applications or services, or specific categories thereof*." [116] This list is not exhaustive.

Exceptional traffic measures are used only on specific occasions. The most widely used measures deserve explanation to illustrate the differences from reasonable traffic-management measures. The exceptional measures lack proportionality and non-discrimination; however, when at least one of the three exceptions occurs, then these measures should work in data-traffic management to overcome serious or unpredicted problems.

The law lists some of the exceptional traffic measures that ISPs use. A description of the measures would thus foster an understanding of the exceptional nature of these measures and why they are used under special circumstances. When the law refers to ISPs **blocking content**,[117] it refers to the action to detect specific content and stop its transmission over the Internet.[118] Additionally, providers can **filter specific data packets;**[119] this means ISPs monitor the Internet traffic, and when the bandwidth power or capacity is not enough for the delivery of services to and from all users, they can slow down or prioritise specific content. **Slowing down** takes place when ISPs deliberately treat traffic less favourably regarding speed.[120] Traffic **prioritisation** is the preferential treatment of a particular group of applications or traffic, concerning speed. [121] **Bandwidth throttling** is a way to slow down the speed – and thus the quality of content – for one category of applications or services, to ensure that the content arrives.[122] **Altering** means the ISP interferes with the form of the content and allows the transmission of changed content.[123] Finally, the **deep packet inspection** requires a detailed analysis of the content of the information transmitted.[124] The aim here is to

[114] Opinions European Data Protection Supervisor, *Opinion of the European Data Protection Supervisor on net neutrality, traffic management and the protection of privacy and personal data* (2012/C 34/01), p 2.
[115] Data traffic compression explained by CISCO, accessed on 19/03/2019, available at https://www.cisco.com/c/en/us/support/docs/wan/data-compression/14156-compress-overview.html
[116] Open Internet Access regulation (n 11) rec 11
[117] Belli and others (n 15) Chapter 2, p. 17
[118] This measure is unlawful when it is not used in the exceptional situation of legal or court obligation and the ISPs deliberately stop the transmission of an application or applications, contents etc.
[119] Belli and others (n 15) Chapter 2, p. 17
[120] Ibid.
[121] Ibid.
[122] Ibid.
[123] Open Internet Access regulation (n 11) art 11
[124] Belli and others (n 15) Chapter 5, p 55, author: A. Pissanty

apply exceptional measures, like blocking, slowing down or prioritising traffic of applications, specifically for packets passing by the ISPs.

These measures interfere with content and can be highly discriminatory. Mostly surveillance is used to apply the measures to specific content or applications. If the measures are used carelessly by ISPs, they can be detrimental to end users' Internet access and rights. Thus, they are used only when at least one of the following occurs.

a) When ISPs need to comply with an act of national or Union law.

ISPs, as all legal and natural persons, must comply with the legal rules applicable in the space where they operate. An example for ISPs, is when complying with unlawful content legislation. This category includes Union law, national law, court orders and decisions made by the competent authorities.[125] For example, if unlawful content legislation is triggered, the ISP can monitor and track down the source of unlawful content and stop its transmission – that is, blocking specific content.

b) When the network security and integrity are at stake.

The security of a network is pivotal for its reliability and efficiency, to be trustworthy and suitable for consumers to use. Therefore, ISPs must have a secure network and be proactive instead of reactive. If there is a distinct threat in the system, the ISP should be able to defend its network against cyber-attacks or malicious software spreading through its connections.[126] The most used technique is completely restricting connectivity or blocking certain endpoints that seem to be the source of cyber-attacks.[127]

The ISP can monitor the system permanently in the background and have an alert system that warns it when actual threats are lurking.[128] However, the authorities should assess the actions of ISPs carefully.[129]

c) When ISPs need to mitigate impending exceptional or temporary network congestion.

The Open Internet Access regulation acknowledges that data congestion might occur. As with every network, such as roads, there is a period when data traffic (produced by users of the network) increases to the point that the network becomes unresponsive or dysfunctional. The Open Internet Access regulation distinguishes between two types of network congestion: temporary and exceptional.

Temporary congestion is a short period with a sudden increase in the number of users, in addition to regular users, or in demand for specific content, applications or services.[130] Temporary congestion can create problems with transmission generally and

[125] Net neutrality guidelines (n 44) p. 9
[126] Net neutrality guidelines (n 44) p 22
[127] Net neutrality guidelines (n 44) p 21
[128] Net neutrality guidelines (n 44) p 22
[129] Ibid.
[130] Open Internet Access regulation (n 11), rec 15: "*Temporary congestion should be understood as referring to specific situations of short duration, where a sudden increase in the number of users in*

leads to a less efficient network.[131] Exceptional congestion refers to unpredictable and unavoidable situations of congestion.[132] This relates to technical defects in the system or hardware, or cable and other infrastructure. Exceptional network congestion is similar to what a force majeure clause would predict in a contract. In other words, it can happen because of an unforeseen event that affects the systems and can be an urgent situation that is not predicted by ISPs – as in force majeure situations. Exceptional congestion can last for long time; it is not necessarily short, like temporary congestion.

These congestions may require exceptional traffic measures to offer a solution. Only in such situations, providers can use the measures, and only if they are proportionally applied. The measures should treat similar categories of traffic similarly. ISPs should not target specific applications.[133] Additionally, the principle of necessity should be applied. That principle demands that the measures should not remain longer than necessary. They cannot replace actual repairs to the network, hardware or infrastructure.[134]

The exceptional measures exist apart from the reasonable measures, because their characteristics differ. Therefore, they are used when one of the above situations occurs. If they are used with respect to proportionality and necessity, they are acceptable. If they are used in other ways (e.g. to circumvent repairs or in the context of unilateral financial interest) then they are unlawful. For example, blocking content from a specific application to avoid congestion probably would not fulfil the requirement of necessity and thus would be unlawful, as it can seriously affect Internet access. Even when ISPs use these measures regarding the b) and c) exceptions, the NRAs must assess their actions.[135]

2.4.6 Specialised services and commercial practices

Open Internet Access regulation addresses commercial practices and specialised services, in two different parts, so is this thesis. Part 2.4.3.1 discusses specialised services, which are usually optimised services relevant to Internet access. Part 2.4.3.2 explains the commercial practices that can be related to Internet access but also contain other services, such as providing content.

2.4.6.1 Specialised Services

Specialised services can affect Internet access; [136] however, the term also refers to a

addition to the regular users, or a sudden increase in demand for specific content, applications or services, may overflow the transmission capacity of some elements of the network and make the rest of the network less reactive."

[131] Net neutrality guidelines (n 44) p. 22-23

[132] Open Internet Access regulation (n 11) rec 15

[133] Net neutrality guidelines (n 44) p 23

[134] Net neutrality guidelines (n 44), p 24.

[135] Net neutrality guidelines (n 44), p 22-23

[136] European Commission, *A view of traffic management and other practices resulting in restrictions to the open Internet in Europe, Findings from BEREC's and the European Commission's joint investigation*, available on https://ec.europa.eu/digital-single-market/en/news/view-traffic-management-and-other-practices-resulting-restrictions-open-internet-europe, 2012. The European Commission and BEREC investigated data traffic management measures and specialised services and presented their findings in 2012. In the investigation, BEREC concluded that about a third of fixed operators indicated that

specific measure in data traffic which optimises the delivery of data packets. Therefore, although the measures are data-management measures, they can be implemented in or around specialised services and the law treats them under another perspective. For example, prioritisation for VoIP can be offered as a specialised service.

The law allows providers to offer services other than Internet access services which are optimised for specific content, applications or services where optimisation is necessary to meet requirements related to the content, and applications or services for a specific level of quality.[137] Specialised services can include business service packages.[138] Another requirement is that the specialised service should not interfere with the basic Internet access of other users. When ISPs provide these services, the NRA must monitor and assess. The NRAs must verify whether and to what extent such optimisation is necessary to ensure one or more specific key features of the content, application or it is just optimisation.[139]

Providers are allowed this freedom when their service meets the criteria posed by the law. The optimisation is only available for particular content or a service or application. The optimisation must be objectively necessary to meet the requirements for the quality of service, which should not be Internet access.[140] Therefore, ISPs should deliver if they have the network capacity to offer specialised services as well as Internet access, rather than to replace access.[141] This must not degrade the access of the same user or others.[142]

NRAs have the right to ask for information relating to the specialised service offer from the ISP in order to assess whether the requirements are fulfilled.[143] Moreover, NRAs have to consider current technology and whether it is necessary or merely prioritisation.[144] While it is clear that these measures are under scrutiny, when an ISP wants to provide specialised services, it is not required to have ex ante authorization by the NRA. Ex ante authorisation is the procedure where the ISP requests permission from the authority to release something new, so that it does not disturb the market balance. [145] These measures are not included in this group of decisions. The law distinguishes between specialised services and commercial practices used by the ISPs.

2.4.6.2 Commercial practices

The legislator defines commercial practices as agreements between the end users and the providers. The agreements relate to the commercial and technical conditions and characteristics of Internet access services.[146] These include all aspects of agreements,

specialised services affected, to some extent, the Internet best effort service for customers using the same access network.

[137] Open Internet Access regulation (n 11) art 3(5)

[138] Net neutrality guidelines (n 44), p 24.

[139] Net neutrality guidelines (n 44), p 27.

[140] Ibid. p 25

[141] Ibid.

[142] Ibid.

[143] Open Internet Access regulation (n 11) art 5(2)

[144] Net neutrality guidelines (n 44), p 27

[145] Net neutrality guidelines (n 44), p 7, The regulation on net neutrality does not need ex ante authorization

[146] Open Internet Access regulation (n 11) art 3(2)

even the unilateral practices of the ISP.[147]

Commercial practices can affect the behaviour of the end user in various ways, including potentially limiting their rights online. However, these practices are part of the competitive aspect of ISPs, since the market is liberalised and ISPs are free to offer new products to consumers. Therefore, the law does not preclude ISPs from behaviours that could limit the end user but ultimately do not. This non-preclusion requires close monitoring and assessment by NRAs in the event these practices affect the end user and competition.[148]

In the context of agreements that ISPs can formulate with end users, ISPs are free to offer different volumes of data and speed.[149] These agreements are likely to be lawful and acceptable when they do not target specific content but are applied neutrally.

The ISPs can offer desirable tariffs, volumes or speed of data. The BEREC guidelines offer examples that are most likely acceptable under this regulation. BEREC suggests to ISPs commercial practices such as application-neutral offers (which do not aim at a specific application) and the ability of consumers to access ISPs' customer services when their data cap[150] is reached are the examples offered by BEREC. By contrast, BEREC suggests that offers that block or restrict access to generally accessible content can be problematic.

When the NRAs assess these practices, they should consider the respective market positions of providers of Internet access services and the providers of content and applications.[151] This is essential since it is clear that the bigger the network of users, the greater the influence on end users' rights. Moreover, when a commercial offer restricts access to the Internet by allowing access only to specific content and not to other accessible points, this offer may reduce the choice of end users. Therefore, reviewing the practices should include considering the influence on the end user and the power ISPs hold in their relevant markets.[152]

2.4.7 Zero-rating offers (Commercial Practices)

Zero-rating is a commercial practice that offers the end user the opportunity to use specific categories of applications or specific applications without a charge. Zero-rating offers are the most widely known commercial practices used by ISPs in the context of mobile Internet.[153] Typically, zero-rating offers are a result of agreements between the ISPs and content providers for specific applications; for example, the most famous zero-

[147] Net neutrality guidelines (n 44) p 10-11
[148] Net neutrality guidelines (n 44), p 10-11
[149] Open Internet Access regulation (n 11) art 3(2)
[150] Data cap is a limit on the volume of the data that can be sent over; it is used in mobile Internet service mainly.
[151] Open Internet Access regulation (n 11) rec 7
[152] Hou (n 18), p 15, the electronic communications framework is asymmetric. This means that depending on factors, the regulation will not treat all the entities the same. The position of the entity in the market can play a pivotal role. Net neutrality guidelines (n 44) p 12-13, If there is a dominant player that offers zero-rating that has particular application (also dominant in their space) it could affect many end users. If the provider is a small provider, probably the effect will be minimal
[153] Lemley and Lessig (n 2)

rating offers were applied for music applications such as Spotify.[154] Also, they can be part of promotional Internet packages for popular applications and are addressed to end users.[155]

Zero-ratings are controversial because if they are allowed, these situations can occur: 1) The appealing image of zero charges to surf the Internet for a particular class of applications or applications can create "walled gardens".[156] "Walled gardens" are online spaces that are restricted to and used by the same users repeatedly, creating their internal development.[157] However, they do not have influence from the rest of online space, because they only interact with people who already participate in the walled garden. 2) A material reduction occurs in the choices of the user when the offer gives access only to specific content, excluding other types. This behaviour minimises the range and diversity of the choices for the end user.[158] 3) The zero charges are a result of commercial agreements. This means two things: a) content providers who have not yet built their brand reputation are excluded from these deals; b) content providers who cannot afford to strike a deal are left out of the zero-ratings, and thus if zero-ratings are untracked, those providers are left out of the competition and the market is not a level playing field. 4) The ISPs offer not only services relevant to Internet access but also other services related to the content and service itself. In this way, providers can drive competition for other Internet and content providers. They can strike deals that are highly acceptable by end users but are too biased, as these deals do not give a chance to content providers that cannot afford to make an agreement with the ISPs.

Combining the above four points, it is understandable that zero-rating offers are controversial. However, such offers have not been made illegal because they represent the resourcefulness and innovation of ISPs to deliver their services, and they boost the market with new competitive ideas.[159] In addition, this provides excellent benefits for the end users, who enjoy a desirable outcome.

The Open Internet Access regulation approaches zero-rating offers case-by-case.[160] They are treated as "positive discrimination", which is not always unlawful. The BEREC guidelines establish certain parameters that deem offers acceptable. These are the position of the ISP in the market; the choice of end users, in many aspects; and the influence on the content provider.[161] As Marsden stated, "*this practice has the concrete potential to create a two-tier Internet, since non-zero-rated applications may suffer a considerable disadvantage compared to the zero-rated ones*".[162] The fact that zero-rating offers can lead to such results does not mean they should be devalued or abolished, provided the risks for end users are mitigated and their rights are not limited.

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[154] European Commission, Executive Summary, Report on zero-rating practices in broadband market, p.4, accessed on 10/12/2018, available on http://ec.europa.eu/competition/publications/reports/kd0217687enn.pdf

[155] Net neutrality guidelines (n 44), p 13

[156] Belli and others (n 15) p 49-50

[157] Belli and others (n 15) p. 48, (authors: F. Musiani and M. Löblich),

[158] Net neutrality guidelines (n 44) p 13, when the choice of the end user is restricted and materially reduced.

[159] Net neutrality guidelines (n 44) p.10

[160] Lemley and Lessig (n 2) p. 12

[161] BEREC guidelines (n 44) 12-13

[162] Marsden (n 16), p.128

Traffic management measures, specialised services and commercial practices constitute the substantial part of the net-neutrality principle and Open Internet Access Regulation in Europe. The first term refers to the management of networks. The latter two terms refer to direct action in the market to offer more than Internet access as a product. The mere existence of the techniques bears concerns for various fields relating to individual rights. The next section links these strategies with the dangers of competition, privacy and freedom of speech.

2.4.8 The transparency Obligation

As mentioned, there is a transparency obligation already established by the USD. The transparency obligation is primary for both NRAs and the end users; this information is useful for consumers to make informed choices.[163] Moreover, it is pivotal for monitoring and supervision by both the NRAs and BEREC.

In the Open Internet Access regulation, the obligation of transparency includes both information addressed to the consumer and the publication of this information.[164] This information relates to the following aspects: 1) how traffic management measures are applied and their impact on Internet access; 2) how volume limitations, speed and other quality factors can affect Internet access services; 3) the realistic minimum and maximum available speeds; and 4) a clear explanation of remedies that end users have if the ISPs do not comply with their own terms or the general rule of net neutrality.[165] This obligation includes publishing that information and giving it (on request) to the NRAs or BEREC; it also enhances the transparency obligation imposed by the USD.[166]

2.5 Division of the reasons of the importance of net neutrality.

Regarding the Open Internet Access regulation, the recommended guidelines by BEREC and the USD, the principle of net neutrality seems a necessity in the online environment. Among the many issues that net neutrality manages there are two main reasons why it is essential.

First, it is crucial to safeguard the right to access for services of general economic interests, which includes electronic communications. Quality is an aspect of this right because without quality there is no real access.[167] In my view, USD introduces the definition of parameters to be measured for speed and they are used for defining minimum requirements. When they are used to form a minimum requirement (minimum speed) they can be “quantitative” standards for quality, to numerically define the margins. In this regard, net neutrality imposes “qualitative” standards for quality, in the context of the quantitative standards. It excludes behaviours that degrade the speed (quantitative element). In this context, the USD gives the quality parameters. The NRAs can impose minimum speed requirements to universal service and selected ISPs. In this regard, the speeds available in every member state can be defined within the national territory, as an aspect of infrastructure. Hence the quality standards are different between member states, and between entities in every member state. Net neutrality is

[163] USD (n 43) art 20
[164] Open Internet Access regulation (n 11) art 4
[165] Ibid.
[166] Open Internet Access regulation (n 11) Art 5 (3)
[167] Batura (n 8), p.50

important to ensure that the entities, apart from selected ones, do not degrade the Internet access service, no matter what the available speed limits of the various undertakings and member states are. However, if these limits are not defined then the measurement might be impossible.

The removal of net neutrality could be detrimental for the quality of the Internet. If there are no defined quantitative and qualitative standards (namely rights arising from the USD and net neutrality), the ISPs will give the worst possible quality to users having basic Internet access, limiting it to the point that the interference restricts all Internet access.[168] Since there is no obligation to establish minimum QoS for all or specific providers, net neutrality at least ensures that ISPs have qualitative standards, when they offer Internet access services.

Second, architecture or code in the Internet environment can shape the Internet. Architecture or code is thus one of the modalities that can shape societies and acceptable behaviours.[169] [170] In the Internet case, the architecture is highly important for two reasons: 1) It is a misconception that the Internet's structure does not change, similar to the unchangeable architecture of the physical world; 2) The end user is unable to do anything about it because technology is a realm that is not easy to learn or to dispute its functions; 3) The design of the Internet has pushed creativity to the end of the network, and thus its tremendous development is found with end-users. [171]

Practically, the best-effort feature (described earlier) is already fading away due to the emergence of QoS. However, this regulation holds ISPs accountable and forces them to balance the management and practices, and to be transparent and careful in their traffic management measures and related services. This balances the ISP's behaviours in order to keep the Internet decentralised. Hence, net neutrality protects the principles of the initial design of the Internet. In this regard, if there is the establishment of universal service, qualitative standards can protect further other human rights expressed online, such as privacy and freedom of speech and not only Internet access.

Moreover, if there were no harmonised quality standards across Europe, it would be difficult to establish the regulation uniformly. If the qualitative standards are removed, ISPs will give the worst possible quality, as the measures for quality are not established for every undertaking. This might not always violate the right to access general economic services but could interfere with freedom of speech and privacy. The next part explores these connections.

2.5.1 Competition law

Competition has strong ties to net neutrality and the legal framework regarding electronic communications. In short, in the electronic communications regime, competition was artificially stimulated through the law to create a market in which new entities could enter and to create a safe and competitive environment (Chapter 3).

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[168] Batura (n 8), p. 162
[169] Lawrence Lessig, The Laws of Cyberspace, Cyberspace Taipei 1998, p. 11
[170] Ibid. p 10
[171] Lessig (n 169) p 11

This framework thus has many competitive elements and concepts, such as assessments on a case-by-case basis, including configuring the position of ISPs in the market.[172] [173] Competition law does not preclude vertical integration per se but can raise flags when it occurs.[174] The level of competition between entities that offer the same products or services is "horizontal". When there are layers of services, and one layer of services is needed in order to provide the other services, this is "vertical". ISPs have the experience, hardware and personnel to detect what kind of service is both appealing to the end user and functional on the networks.

The competition can be distorted by the lack of net neutrality at two levels: 1) the competition between the ISPs and 2) the competition between the content providers. The ISPs can provide both access and content services. For example, when ISPs offer content and applications in addition to their Internet services, they have vertically integrated services. Therefore, if an entity that belongs in the previous layer of services[175] provides a service in the next horizontal layer, this is called "vertical integration".[176]

The competition problems that exist regarding the infrastructure of the electronic communications and Internet sector cannot be ignored or solved by the market itself, since the market is not mature enough to reasonably eliminate players.[177] The competition problems affect end users by limiting their choices and the areas in which new ISPs and content providers act.

In the context of competition, the approach of net neutrality for zero-ratings offers is crucial. These practices can distort both the competition and the choice of end users, not only horizontally but also vertically (as explained in Zero-ratings: Commercial offers). This applies to the unlawful treatment of data traffic through any kind of traffic measure, if applied only to specific applications.

2.5.2 Privacy, Mass surveillance and confidentiality of communications

Another area that is profoundly affected by the lack of net neutrality is the privacy of users. The ISPs facilitate electronic communications, and they cannot do so if they do not have some information about the users. The ISPs indeed have access to the metadata of all users. They can also store those data for different purposes.

In its 2012 report, the EDPS stated that the measures ISPs take may require the

[172] Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services (Framework Directive), art 14.
[173] Net neutrality guidelines (n 44) Configuring the position in the market is important for the NRAs to assess generally the behaviour of the ISP.
[174] M. Lorenz, An Introduction to EU Competition Law, Cambridge University Press, 2013, p. 156-157
[175] ISPs rarely are merely only Internet service providers; most ISPs offer content, either of their own production or with vertical agreements with the content suppliers
[176] Lorenz (n 174)
[177] "*The European Commission has worked successfully to increase competition in telecoms, bringing new entrants into the telecoms sector throughout Europe, forcing incumbent providers to raise their standards of service and reduce their prices, and applying the competition rules to maintain competition between telecoms operators*." accessed on 12/12/2018, available on http://ec.europa.eu/competition/sectors/electronic communications/overview_en.html

monitoring of communications, and this may affect fundamental rights.[178] The end user's communication confidentiality and privacy are at stake.

In the Union, two treaties protect privacy. The Charter of Fundamental Rights of the European Union refers to the respect for private and family life and mentions the protection of personal data.[179] The European Convention on human rights also protects the right to private and family life.[180] In both situations, the right to privacy is not an absolute right.[181]

The ISPs can gather the metadata of all their users and scan the headers of all packets that travel through the network. As seen earlier, management techniques can give them other tools too, to see more in-depth into the content of each package. This action potentially violates the privacy of the users in a way that is unacceptable. Additionally, ISPs can gather all relevant information of their users if the ISPs have the right to use techniques and on a regular basis. In other words, providers have metadata and the IP label of the data sent from the sender's computer to the recipient's.[182] However, they could also gather information on the content of their users' actions, which could potentially qualify as mass surveillance and big-data gathering. Without the safety of net neutrality, measures that inspect the content of data packets over the net and gather information about users would be allowed, and less traceable, than when net neutrality applies.

2.5.3 Freedom of Speech

In 2015, the expert on freedom of expression in the UN, David Kaye, welcomed the establishment of legislation in the US. He stated:

> "Where net neutrality is not applied, ISPs may, at their own initiative or through governmental pressure, discriminate against particular content by slowing down or blocking access to certain websites while increasing the speeds by which users can access the websites of 'approved' content providers." [183]

A human rights expert can understand the underlying dangers that the lack of net neutrality creates. If net neutrality is removed, freedom of expression and privacy are in danger. Mere Internet connection is not sufficient for the end users, because merely being connected is not enough to enjoy what the Internet offers. If there is a connection but the user cannot freely decide what to do or say online, there is no real freedom of speech or balance. This is also highlighted in the recommendation of the Committee of Ministers of member states: "*in the Information Society, the exercise and enjoyment of the right to freedom and expression (...) are increasingly reliant upon the accessibility*

[178] Open Internet Access regulation (n 115) p 2.
[179] Art 7 Respect for private and family life, Protection of personal data, Charter of Fundamental Rights of The European Union (2000/C 364/01))
[180] Art 8 Right to respect for private and family life Protection of personal data (European Convention on Human Rights as amended by Protocols Nos. 11 and 14 supplemented by Protocols Nos. 1, 4, 6, 7, 12, 13 and 16
[181] CFR art 7(2) and art 8(2)
[182] Net neutrality guidelines (n 44), p 18
[183] "A real victory for freedom of expression" – UN rights expert hails US move to keep Internet open, accessed on 12/08/ 2018, available on https://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=15622&LangID=E

and quality of an Internet connection."[184]

Merely having Internet access is not sufficient to guarantee the full flowering of free expression and the other rights it enables, including the rights to freedom of assembly and association, the right to education, and the right to participate in cultural life.[185] The Internet's power to transform communications and promote free expression and a pluralistic information environment derives and flows from its characteristics that have defined the Internet since its inception. For example, thoughtless blocking of specific content or applications restricts the access, which would not happen in the context of the initial architecture of the Internet.

The principle of network neutrality underpins non-discriminatory treatment of Internet traffic and the users' right to receive and impart information and to use services of their choice. It reinforces the full exercise and enjoyment of the right to freedom of expression. The right applies not only to the content of information but also to the means of its dissemination.[186][187]

Net neutrality in this sense keeps the Internet from becoming the medium most scrutinised by private entities. It is net neutrality that protects the unseen structure of the Internet and ensures there is no interference based on financial or other incentives. In the case of freedom of speech and privacy, the incentives that would push ISPs to interfere with the data traffic can be financial, commercial and political.

By analogy to the postal system, endpoints are like people writing and reading letters, while the primary function of ISPs routers and switches is to read addresses and move information to its destination like the postal service.[188] If an ISP decides that the content of the envelope is not approved, then this envelope would never reach its destination. If ISPs can manipulate the arrival of an envelope, then governments can interfere freely with the Internet's "postal system" too, without providing a legitimate excuse like they would have when a legal framework was in place. For example, in Turkey, the prime minister blocked the use of YouTube based on a law that allowed this interference.[189] This behaviour could apply to one's messages or e-mails, and one's choices of content, applications and services.

Freedom of expression is an enabling right; online, net neutrality ensures that there are no unjustified interferences. The first level of protection is around the data-traffic measures and the second level is the safety net that ensures general protection against unreasonable blocking or other interference online.

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[184] Recommendation CM/Rec (2016)1 of the committee of ministers of member states on protecting and promoting the right of freedom of expression and the right to private life with regards to network neutrality

[185] Belli and others (n 15) Andrew McDiarmid and Matthew Shears, p 31

[186] Art 10, Freedom of Speech (European Convention on Human Rights as amended by Protocols Nos. 11 and 14 supplemented by Protocols Nos. 1, 4, 6, 7, 12, 13 and 16

[187] Also, art 11 of the Charter of Fundamental Rights of the European Union.

[188] Open Internet Access regulation (n 115), p 3

[189] Dominica Bychawska, *The handbook for legal practitioners, Protection the right to freedom of expression under the European Convention of human rights*. Council of Europe, 2017, p110

2.6 Conclusion

Net neutrality is the principle that dictates the fair data-traffic management by ISPs. It affects the services that they deliver (Internet access, specialised services) on both mobile and broadband connections. The Open Internet Access regulation dictates how ISPs should implement measures, dividing them into the categories of reasonable versus exceptional. It also points at principles that can be used when offering optimised services and at their commercial behaviours, namely zero-rating.

Net neutrality is associated with the quality of Internet access. Therefore, it is associated with the universal service and general protection concerning quality in the USD. In this regard, my view is that there is a distinction between quality as depicted in the USD and in net neutrality. The USD defines QoS and offers the discretion to establish a minimum and maximum speed to selected providers, by NRAs, and protects the right to access the Internet. Moreover, as mentioned it creates fragmented approaches. Net neutrality imposes the obligation to fair treatment of the data, meaning that it dictates behaviour around the QoS and how they are used. Therefore, it is a qualitative standard, uniform to all member states.

This point is important to separate the effects on access to the Internet versus architecture and human rights. Net neutrality in combination with universal service and access, as a right, makes a strong argument for protection and safeguards access to its fullest. It ensures that the minimum quality available is not degraded by these techniques and practices and safeguards the access by quantitative and qualitative standards.

Second, even if access is not at centre of the problem, abolishing net neutrality can have a tremendous impact on human rights. Distorting the principles of the architecture can create problems for end users that enjoy a normal speed Internet access and bundled services. In the context of technology evolving, net neutrality does not protect the exact features of the architecture but their underlying principles. This creates qualitative standards that are a “safety net” for competition and for privacy and freedom of speech.

This means that net neutrality protects all end users, on many different levels, and in ways that are invisible. Probably, the reason why Open Internet Access is a regulation and not a directive, is because it can be implemented uniformly. It should – especially compared to the quantitative” standards – create a safety net for the rights of the end user. However, the Open Internet Access and USD could offer better protection if merged into one piece of legislation.

One more aspect that is important is the flexibility of the regulation. The measures need to be balanced and there are few measures that prohibit a behaviour per se. This requires constant monitoring and assessing by the NRAs. Particularly, both the publication of information and the transparency obligation and monitoring of actual performance are crucial to assess the behaviours on a case-by-case basis. To identify violations, QoS monitoring is necessary. Furthermore, it requires balancing by the authorities to decide if remedies should be imposed on ISPs that do not follow the procedures. Therefore, it is essential to have technical expertise and uniform NRA procedures to assess the implementation of the law, to provide consistent quality of the Internet across Europe. Although net neutrality is crucial, it is difficult to monitor.

Chapter 3: Electronic Communications and BEREC

3.1 Introduction to the Comparison

This section explores the nature of the electronic communication sector and particularly the universal service. BEREC that supervises this market and regulation is also discussed. The first description is vital to understand the peculiarities of the sector and the second is to examine the structure of the body. It is essential to know the exact powers of BEREC, to understand which powers the body already has and what powers could be added.

The focus is on the electronic communications framework and the embedded principles, the NRAs and their role. This section focuses on the history and structure of BEREC, including the actions it can take and the European Commission's (EC) proposal for reform. An explanation of what the classification of the body means is offered, because the classification reveals the extent to which the body has been vested with powers. Focusing on these areas highlights that BEREC has no role other than advisory. It also serves the comparison between BEREC and ACER, by establishing its powers, leading to a discussion of the tools that ACER has and BEREC does not.

3.2. Electronic Communications Overview

The view of an internal market in electronic communications, namely DSM, pushed member states to liberalise their markets. The member states started abolishing the monopolies they held over electronic communications.[190] To do so, there was a need to embed competition rules to ensure a level playing field and harmonisation to attain the DSM.[191] Financial regulation was the first step to embed competition and protect consumer welfare during the transition.[192] [193] The second step was to create National Regulatory Authorities (NRAs), independent from both the entities in the market and from governments. Another characteristic is that this is a network industry, which means it depends on uniform standards to provide services and facilitate effective competition.[194]

The electronic communications framework is broad.[195] This chapter is devoted to BEREC and its establishment of regulation.[196] The focus is mainly the USD, the Open Internet Access Regulation and partially on the Framework Directive to complement

[190] Electronic communications Overview, available on http://ec.europa.eu/competition/sectors/electronic communications/overview_en.html
[191] Zinzani (n 20) p 162
[192] Pier Luigi Parcu, Virginia Silvestri, For electronic communications: Electronic communications regulation in Europe: An overview of the past and future problems, 2014, Elsevier
[193] Lorenz (n 174), p 12. By consumer welfare, it is meant that the consumer has a wide range of choice of good quality services and low prices. M. Lorenz, An Introduction to EU Competition Law, Cambridge University Press, 2013.
[194] Batura (n 8) p 170-171
[195] See the electronic communications framework including frequency policy (end excluding Open Internet Access regulation that was issued later than the date of the document),accessed on 15/03/2019, available on https://ec.europa.eu/digital-single-market/sites/digital-agenda/files/Copy%20of%20Regulatory%20Framework%20for%20Electonic%20Communications%202013%20NO%20CROPS.pdf
[196] Art 4. BEREC (n 13)

the BEREC regulation.[197] The USD is the instrument that ensured the protection of consumers in the general economic interest services.

3.2.1 Universal Service

As mentioned in Chapter 2, the USD describes universal service as the minimum set of services for all end users, at an affordable price and specific quality, even in remote locations as long as these are reasonable.[198] [199] This concept establishes an obligation to provide the same access to basic Internet services, regardless of geographical location and independently of whether this action is commercially profitable for the undertaking. Universal service is a national matter and it becomes the obligation of the designated undertakings. It is a national matter because the needs in a region may differ from those in another region and this cannot be harmonised at a European level.[200]

Apart from the universal service designation, the USD imposes the obligation to define "quantitative" standards to NRAs. It also imposes transparency obligations on all entities that provide services for electronic communication.[201] The NRAs must define the parameters to measure quality in their national territory, and may impose minimum speed requirements on a provider, apart from the universal service.[202] Net neutrality complements this legislation but it is not connected as it should be to safeguard access.[203]

3.3 BEREC and the NRAs

First, this section provides a brief history regarding the NRAs and their tasks regarding net neutrality. Next, the focus turns to the history of BEREC and its composition, role and tasks. Lastly, the Commission's proposal for the reform of the body are explored to understand what the main changes are that the European institution suggests for BEREC.

3.3.1 Overview of NRAs

The NRAs cropped up when the European Commission dictated the separation of functional versus operational activities in the electronic communications sector. This separation was included in all national reforms, in different forms.[204] According to the Framework Directive, National Regulatory Authority "*means the body or bodies charged by a Member State with any of the regulatory tasks assigned in this Directive and the Specific Directives*".[205] Moreover, the NRAs need to be independent players

[197] Electronic communications framework (n 195)
[198] USD (n 43)
[199] USD (n 43), art 11 The ISP has to provide at least what is described in the contact as the minimum standard service. If the lowest described speed described in the contract is not achieved, then the end user has a right for refund.
[200] USD (n 43) "*Member States shall ensure*" the availability and the affordability, art 3 and 4, and the quality provision of course
[201] See chapter 2
[202] USD (n 43) 22(3)
[203] BEREC guidelines for QoS (n 7) Quality is correlated to net neutrality provisions
[204] Green paper on the development of the common market for electronic communications services and equipment COM(87)290, p. 14 section 5
[205] Framework Directive (n 172) art 2(g)

from incumbents in the market and from national governments.[206][207]

The Commission dictated in one of the communications to the Council and Parliament that the:

> "NRAs should play an essential role in the implementation of this Directive, particularly (…) on the supervision of conditions of use, the resolution of disputes and in ensuring that users are given fair treatment throughout the Community; whereas they should have the necessary means to carry out these tasks fully." [208]

The NRAs still play the most critical role for implementing the electronic communications framework because they are the local supervisor and regulator. The practical application depends strongly on the proper functioning of these authorities. In the latest review by the EC, the EC pointed out that even though the NRAs operate and help in every member state, they have different levels of efficiency and there is room for improvement.[209] Also, the Commission stated that the protection of end users should be a main task for NRAs.[210]

The NRAs have all the powers of enforcement, implementation and rule-making (if granted by the MSs). They do not have the power to harmonise rules outside their regional watch. Concerning the USD, the NRAs must define the measurement parameters and monitor the Universal Service obligation. They must provide significant market power (SMP) evaluations to define the dominant player in their market,[211] which can be important for assessing zero-rating offers.[212]

According to Framework Directive 7a procedure and USD recital 34 and article 22(3),[213] [214] the NRAs should inform BEREC and the Commission when imposing any minimum speed requirements to ISPs. NRAs must take the utmost account of the EC's and BEREC's opinions or recommendations to amend requirements that are not consistent with DSM or European law.[215]

3.3.2. NRAs and net neutrality

Regarding net neutrality, NRAs are responsible for safeguarding this under the scope of the Digital Single Market (DSM). Moreover, the authorities are obliged to consider

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[206] P. Nihoul and P. Rodford, *EU Electronic communications Law Competition and Regulation in the European Electronic communications* Market, Oxford University Press, 2004, p. 19

[207] E. Ongaro, *Multi-level Governance: The missing linkages*, Bingley UK, Emerald Group Publishing Limited 2015, p.136

[208] Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions - European Electronic Communications Regulation and Markets 2003 - Report on the Implementation of the EU Electronic Communications Regulatory Package, available on https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX%3A52003DC0715

[209] Review of the Electronic Communications Regulatory Framework Executive Summary 6: NRAs and BEREC, accessed on 8th of December 2018, available on https://ec.europa.eu/digital-single-market/en/news/review-electronic-communications-regulatory-framework-executive-summaries

[210] Nihoul and Rodford (n 206)

[211] Framework Directive (n 172) art 15(1)

[212] Net neutrality guidelines (n 44) p 12

[213] Framework Directive (n 172) art 7(1), 7a

[214] USD (n 43) art 22, rec 34

[215] Framework Directive art 7a (1)

the end users' rights, as stated in the Open Internet Access regulation.[216] Specifically:
"National Regulatory Authorities (NRAs) will have to monitor market developments. They will have the powers and the obligation to assess traffic management, commercial practices and agreements and to enforce the Regulation effectively. NRAs will also have to ensure that the quality of the Internet access service reflects advances in technology." [217]

As mentioned, the NRAs have many tasks regarding net neutrality. The NRAs are the main actors to ensure the implementation of the Open Internet Access regulation. They must monitor the behaviour of the ISPs closely and assess their measures and offers of specialised services and related products (i.e. zero-ratings). The assessment requires mechanisms for monitoring, transparency and behaviour of the ISPs.

The BEREC guidelines explain that it is the body's opinion that all measures taken in the context of net neutrality do not need ex-ante authorization of the local NRA.[218] In other words, there is no need to permit beforehand the actions of the ISPs, until there is a need for the NRA to do so. However, the NRAs must still constantly monitor and assess all aspects of Internet access and related products; they must assess data-traffic measures (reasonable and exceptional), specialised services, and the commercial agreements of the ISPs. In most cases, with the law being flexible,[219] the NRAs must generally assess on a case-by-case basis.[220]

NRAs must establish certified monitoring mechanisms for the purpose of monitoring the actual performance of the service offered by the ISPs, and to assess their behaviour.[221] Marsden stated that the actual monitoring of the net neutrality principle is difficult.[222] The methodology used for the certified mechanism is established by BEREC in the guidelines.[223] There is no information on how this mechanism should be established; therefore, any mechanism used by the NRA is a certified mechanism.[224] According to art. 5(1) and 6(1) of the Open Internet Access regulation, penalties are defined by member states and remedies by the NRAs. Remedies imposed on providers after identifying violations cannot be scrutinised by Commission and BEREC, as this procedure is envisaged for remedies arising from Directives (see tasks of the body).

3.3.3 History of BEREC, IRG and ERG

NRAs realised it would be useful to create a platform where they could communicate with each other and exchange expertise and knowledge. This led to the creation of an unofficial platform, the Independent Regulators Group (IRG).[225] Later, the Commission understood that this platform could potentially play a better role in coordination, so it established the European Regulators Group (ERG) in 2006.[226] This network was

[216] Open Internet Access regulation (n 11)
[217] Open Internet Access regulation (n 11) art 5
[218] Net neutrality guidelines (n 44) and p 7
[219] See chapter 2
[220] Net neutrality guidelines (n 44) e.g. p 10-11
[221] Open Internet Access regulation (n 11) rec 18 and art 4(4)
[222] Marsden (n 16) p. 125
[223] Net neutrality guidelines (n 44) p 30, p 37.
[224] Net neutrality guidelines (n 44), p 30, p 37
[225] IRG, Accessed on 16/01/2018, available on www.irg.eu
[226] European Commission, Commission Decision 2002/627/EC of 29 July 2002

established only to fulfil the role of coordination between authorities and monitoring.[227]

3.3.4 BEREC: the new body

After 2009 and by 2011, BEREC became fully functional,[228] and succeeded ERG in its work.[229] The Commission defined BEREC "*as an exclusive forum for cooperation among NRAs, and between NRAs and the Commission*".[230] The Commission ruled out both legal personality for the body and the character of a European agency for BEREC, defining it as a "forum".[231] Essentially, the forum is a regulatory network.[232]

3.3.4.1 Agencies and Networks Overview

European regulatory agencies can take individual decisions in the application of regulatory measures. [233] They operate with a degree of independence and within a clear framework established by the legislature.[234] The regulation creating the agency should set out the limits of their activities and powers, responsibilities and requirements for openness.[235] Although the law defines BEREC as a forum, its structure is one of a regulatory network.[236] [237] A network is a transnational group that institutionalises the interactions among the regulatory authorities of each EU member.[238] Networks configure a sophisticated type of governance, consisting of networked associations in charge of developing and approving similar soft rules to be adopted by their members.[239]

The agencies in Europe exist to ensure regulatory policies are implemented coherently throughout the Union.[240] However, agencies work mainly based on soft law and they do not have the power to enforce the law. No European agency created to date has been endowed with genuine and direct rule-making powers.[241] Agencies do not take binding measures without the Commission.[242] Nevertheless. agencies can be entrusted with decisions at specific occasions.[243]

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[227] Ibid.
[228] BEREC (n 13), art 4
[229] BEREC (n 13), rec 8.
[230] BEREC (n 13), rec 6
[231] Ibid.
[232] Ongaro (n 207), p 154
[233] The agencies can be either regulatory or executive. Executive agencies are beyond the scope of this work. There are six in the Union and they do not relate to the focus of the thesis. Available on *Communication from the Commission to the European Parliament and the Council - European agencies – The way forward {SEC(2008) 323}*
/ COM/2008/0135 final */*
[234] Ibid.
[235] European Commission's White paper on European Governance (COM(2001)428)
[236] Levi-Faur (n 22), p 823
[237] Ongaro (n 207), p 154
[238] Martino Maggetti, The rewards of cooperation: The effects of membership in European regulatory networks, August 2014
[239] Ibid.
[240] Wood, M. (2018), Mapping EU agencies as political entrepreneurs. European Journal of Political Research, 57: 404-426. doi:10.1111/1475-6765.12232, p. 404
[241] Ibid.
[242] *European agencies* (n 233)
[243] Andrew Moravcsik , A New Statecraft? Supranational Entrepreneurs and International Cooperation, 1999, by The IO Foundation and the Massachusetts Institute of Technology, p.268

Agencies are slightly stronger than networks and that indicates that they have an enhanced set of tools. The differences between a network and an agency arise in the details of their tasks and powers. Therefore, the selection of an agency or a network could be of big difference for the body established.

3.3.4.2 Structure

BEREC has been established as two entities: BEREC proper and BEREC the Office. BEREC the Office has a legal personality in order to manage BEREC financially.[244] The Office handles the administrative issues and assists BEREC. Notably, the Office handles the budget and programme of both bodies (BEREC and the Office); it also handles the distribution and collection of information to and from the NRAs. The Office is steered by the Management Committee, which has an administrative manager as its head.[245]

BEREC, on the other hand, does not have legal personality. It is responsible for creating working groups that treat the issues that arise with the help of specialised expertise.[246] The steering body for BEREC is the Board of Regulators, which takes decisions about the content of problems and divides the work. Both the body and the Office comprise the same members of NRAs, and representatives from non-member states and the Commission simply join them as observers.[247]

The two-tier structure was identified by Levi-Faur as an "agencified network". [248] According to Levi-Faur, when networks have some formalisation, administrative capacities and a formal hierarchy, they are "agencified networks". [249]

3.3.4.3 The tasks of the body

BEREC's main purpose is to assist the EU in creating an internal electronic communications market[250] and to ensure the consistent application of the EU regulatory framework for electronic communications.[251] In this context, it must facilitate cooperation among the NRAs, and between the NRAs and the Commission. Secondly, upon request and on its own initiative, BEREC provides expert advice to the Commission, the European Parliament and the Council.[252]

Specifically, considering expert advice, BEREC delivers opinions and recommendations, and assists the European Institutions and NRAs in decision making in its areas of competence. Also, it monitors the NRAs' activity and drafts reports. Such activities take place also in the context of the USD general provisions and net neutrality.

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[244] BEREC (n 13)
[245] BEREC (n 13) art 7
[246].BEREC (n 13) art 4
[247] BEREC (n 13) art 4 and 7
[248] Levi-Faur (n 22) p 824
[249] Ibid.
[250] BEREC (n 13) rec 3
[251] BEREC (n 13) art 1 para. 3
[252] BEREC (n 13) art 4

NRAs have to consult with interested parties when implementing national measures. When BEREC and the Commission are involved, NRAs must take utmost account of their opinions.[253] Furthermore, according to the amended Framework Directive article 7/7a,[254] BEREC plays an enhanced consulting role. Regarding article 7, if a measure is taken by an NRA after a market review[255] and the Commission has "serious doubts", BEREC can agree or disagree with the Commission before it decides. The measure that is challenged should belong to one of the pre-defined markets that the NRA monitors and takes decisions about, according to the Framework Directive and Specific Directives.[256] The decisions can be related to SMP reviews and relevant remedies that can distort competition.[257]

According to article 7a, the EC can scrutinise national remedies relevant to consistent application of the directives and recommend changes. BEREC is invited to consult on the recommendation to the NRAs.[258] To date, BEREC has not been granted the power to issue an opinion or recommendation that forces NRAs to change a national measure or review.[259] When BEREC agrees with the Commission -in other words confirms the serious doubts expressed in both procedures (7/7a)- then it must work closely with the NRA to find suitable solutions.[260][261]

At another level, the body has the power to launch public consultations with concerned parties regarding reports, measures or guidelines that are debated, to obtain a clear view of the subject. In this way, BEREC's contribution is valuable for the Commission and NRAs.[262] BEREC has performed various consultations on the indicators of Internet of Things[263], and has evaluated net neutrality regulation.[264]

BEREC, in its mission to aid the consistent application of the framework, has published many guidelines to align the NRAs with difficult and technical aspects of the framework. BEREC has taken special care of net neutrality in light of the QoS.[265]

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[253] Framework Directive (n 172) art 6.
[254] Framework Directive (n 172)
[255] *Under the revised 2009 EU regulatory framework national regulatory authorities (NRAs) are required to analyze a set of markets for electronic communications which may need ex-ante regulation.*
*This analysis contains three different elements: **1**.Market definition - first the NRA must define the relevant geographic and product market. **2.** SMP assessment - in a second step the NRA must analyze whether one or more undertaking active in that market possesses significant market power either individually or jointly with others. **3**.Decision on remedies - if the NRA identifies a market with a lack of effective competition, it is required to impose certain regulatory obligations, so-called remedies.",* accessed on 19/6/2018, https://bereceuropa.eu/eng/article_7_procedures/role_and_procedures_of_berec/
[256] Framework Directive (n 172) art 7
[257] Framework Directive (n 172) 7(3a)(3b) and 7(4a)(4b)
[258] Framework Directive (n 172) art 7a(1)
[259] Zinzani (n 20) p 217
[260] Additionally, in 2017-2018 the body issued more than 32 opinions on various occasions, including the proposals for reform of BEREC, the code and phase II investigations. So far, the body has not been afraid to disagree with the Commission and express its various concerns.
[261] Framework Directive (n 172) 7(7), 7a(2)
[262].BEREC (n 13) art 17
[263] BEREC Report on the outcome of the public consultation on the draft BEREC Report on Internet of Things Indicators, BoR (19) 24, 07/03/2019.
[264] BEREC opens public consultations on 5G and End-users and net neutrality regulation, BoR (18) 259, 12/12/2018
[265] BEREC guidelines for QoS (n 7)

As a concluding point regarding the general abilities and powers of BEREC, the body has no binding power. The Commission and the NRAs must take the utmost account of its reports, opinions, and recommendations. This does not mean the body lacks any power, but it does not have tools that are binding, even though it has expert knowledge and is aimed at harmonisation.

3.3.4.4 BEREC's tasks regarding net neutrality

Regarding net neutrality, BEREC is charged with safeguarding the implementation of the law. BEREC had to form a strategy that NRAs must take the utmost account in their effort to be compliant with Open Internet Access regulation. The strategy states that "*The methodology should be established in the guidelines of the Body of European Regulators for Electronic Communications.*"[266] and that NRAs "*should take utmost account of the relevant guidelines*."[267] When the law refers to NRAs taking the utmost account of BEREC's recommendations, it means they can refuse following the recommendations but should then explain the reasons.[268]

Therefore, one of the main tasks of BEREC is to give uniform instructions. These are given as guidelines to member states' authorities concerning the interpretation of the Open Internet Access regulation. Additional guidelines help the NRAs to use the same standards and methodology in order to assess whether ISPs are using traffic measures and how these can be assessed by the NRA.[269] Nevertheless, the guidelines issued by the body are non-binding.[270]

Additionally, BEREC monitors the measures that NRAs take in the course of their actions. According to the Open Internet Access regulation, the NRAs must report to BEREC once a year.[271]

Notably, BEREC has provided much insight on net neutrality across the EU, as evidenced by the public consultations performed in the course of net neutrality implementation.[272] In 2018, BEREC held a consultation for the evaluation of Open Internet Access regulation, where NRAs and ISPs voiced their concerns. It was established that a methodology for monitoring is required and more details are needed in the context of zero-rating assessments. BEREC pledged to give more information concerning the zero-rating offers.[273]

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[266] Open Internet Access regulation (n 11) rec 18
[267] Open Internet Access regulation (n 11) rec 19
[268] Zinzani (n 20) p 203
[269] Draft BEREC net neutrality Regulatory Assessment Methodology, available on https://bereceuropa.eu/eng/document_register/subject_matter/berec/public_consultations/7093-draft-net-neutrality-regulatory-assessment-methodology
[270] BEREC (n 13) art 3 para.3
[271] Open Internet Access regulation (n 11) art 5
[272] BEREC, Public consultation performed on draft BEREC guidelines, available on https://bereceuropa.eu/eng/document_register/subject_matter/berec/reports/6161-berec-report-on-the-outcome-of-the-public-consultation-on-draft-berec-guidelines-on-the-implementation-by-national-regulators-of-european-net-neutrality-rules
[273] BEREC, Consultation paper on the evaluation of the application of Regulation (EU) 2015/2120 and the BEREC net neutrality Guidelines, BoR (18) 3, p 6-7

3.5 Proposal for the reform of BEREC

In its resolution about the DSM strategy, the EU proposed reforming the network into an agency.[274] The reform of BEREC aims to ensure the consistent application of the regulatory electronic communications framework and the deployment of high-capacity connectivity networks. The proposed regulation by the Commission follows the new European Communications Code.[275] The proposed electronic communications code will merge all existing directives into one, and the resulting directive will define or add tasks for BEREC in order to transform the forum into an agency.

Specifically, the proposal suggests changing the structure of BEREC from a two-tier European body to a full-fledged decentralised agency. It will receive quasi-binding powers, which in its previous form BEREC did not acquire.[276] In the proposal, the role of BEREC will remain advisory but it will have some pre-normative powers, including a better market review process and a spectrum assignment of rights of use for radio spectrum.[277]

First, this proposal changes the structure of BEREC, by unifying the two boards and giving them a legal personality, namely the Board of Regulators and the Management Committee.[278] The management board will comprise members from the NRAs and two representatives from the Commission.[279]According to the proposal, this change will reduce the administrative burden and will transform the agency into a more efficient body.[280] The proposal aims at a formal type of organisation. BEREC will gain more accountability and ultimately will strengthen its position regarding the supervision of NRAs.

Second, the proposal will broaden the tasks of BEREC. The proposed agency will have certain binding powers to issue decisions, which in the present state BEREC is not able to do. The proposal of the regulation states that "*The tasks of BEREC shall be to (b) issue decisions on a contract summary template following article 95 of the directive*."[281] This article points out some of the necessary information that a contract summary should contain so that end users are informed before entering a binding contract. In the same context, the proposed regulation mentions that the NRAs shall comply with decisions issued by BEREC.

Third, the proposed agency will be able to 'double-lock veto' measures notified by the NRAs to the Commission regarding SMP reviews and remedies imposed to dominant providers.[282] In other words, BEREC will have the power to agree with the serious doubts of the Commission about proposed measures and stop their enactment.[283] Before, the Commission used to take utmost of BEREC's opinion in the Framework 7

[274] BEREC Proposal (n 50),
[275] Proposal for ECC (n 86)
[276] BEREC Proposal (n 50) p.5
[277] BEREC Proposal (n 50) p. 10
[278] BEREC Proposal (n 50) p. 12
[279] BEREC Proposal (n 50) p 12
[280] BEREC Proposal (n 50) p.11
[281] Proposal for ECC (n 86) art 95
[282] Proposal for ECC (n 86) art 33. Regarding the review of the markets BEREC will still issue opinions.
[283] BEREC Proposal (n 50) p.11, (n 86) art 33

procedure.[284] [285]

3.5.1 Net neutrality

The Commission's plan allows BEREC to interfere only with regard to the contracts that ISPs deploy to their end users. This is a crucial step for net neutrality,[286] as net neutrality can be monitored and assessed through ISPs' transparency obligation. BEREC shall decide on the information that ISPs binding contract summaries should contain. The contracts given to consumers -before they subscribe- will contain these summaries,.[287] This will assist the informed choice of the user and enable assessment by the NRAs.

As initially, BEREC is charged to "*issue guidelines as referred on the implementation of the NRAs obligations as regards to open Internet access per article 5 of the Regulation 2120/2015.*"[288] Therefore, no other competence or tool was added regarding net neutrality.

3.6 Conclusion

The electronic communications sector has been through liberalisation and privatisation. The EU deemed it necessary to embed competition to create the DSM. Due to the complicated technical nature of electronic communications, expert knowledge and sector-specific provisions are needed. Moreover, universal service ensures that everyone enjoys a functional Internet service. Net neutrality may be an aspect of quality, but unlike universal service it is an obligation for all ISPs. BEREC does not interfere with universal service because that is a national matter, and due to infrastructure, it is reasonable that it remains as such.

The liberalisation created independent NRAs with many competences; the NRAs are also the main players for implementing the electronic communications framework. Particularly, regarding net neutrality they must monitor and assess the behaviour of ISPs and enforce remedies. To do so, they must assess the performance of networks and the information provided by ISPs. In this context, they must develop monitoring mechanisms. The report on the evaluation of Open Internet Access showed there is a necessity for information in this area, and the assessment of zero-ratings.

In electronic communications there is a need for coordination and harmonisation, and BEREC contributes to this. BEREC is a network that has no binding powers. It issues opinions also in the context of the 7/7a procedure, namely the Commission can scrutinise SMP reviews and national remedies. In this context USD minimum speed requirement can be scrutinised, but net neutrality remedies cannot, especially because they arise from a regulation and not a directive.

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[284] Framework Directive (n 172) 7(5)
[285] Proposal for ECC (n 86), art 32, art. 33, The procedures depicted in the Framework directive seem to be intact in the proposal for the Electronic Communications Code, apart from the addition of the 'double-lock veto'.
[286] See Chapter 2
[287] Proposal for ECC (n 86) art 95(5)
[288] BEREC Proposal (n 50) p.2

The BEREC proposal establishes BEREC as an agency that can take binding decisions. Unfortunately, it grants only one tool with binding effect for net neutrality: the decision on summary contracts provided by an ISP and their mandatory content. This is important as the transparency obligation is clearly established for the ISP's and consumer's protection. However, no further addition was made regarding net neutrality. Notably, in the renewed 7 procedure, when BEREC agrees with the Commission regarding the expression of serious doubts, a national remedy can be withdrawn but no aspect of quality or net neutrality can be found in between the remedies that can be scrutinised.

Chapter 4: Energy and ACER

4.1 Introduction

This part of the thesis aims to identify, based on a comparative analysis, how BEREC could be better equipped to preserve net neutrality. As mentioned before, a comparison will help to identify tools that could be used to preserve net neutrality. An analysis comparing all the agencies of the European Union (EU) is not realistic for the scope of this thesis. Therefore, among the agencies and centralised bodies that are active and established in the EU, a choice was made for a comparison with only one similar, but distinct, agency.

The previous chapters have built an understanding of net neutrality in Europe and its substantial provisions and mapped the current tools of BEREC and the proposed ones. To further propose the addition of different tools, there is a need to create a pool of tools that BEREC could take use of. A comparison with ACER will provide this pool, for reasons that were proposed in the Introduction and are highlighted in this chapter.

To create a pool of choices drawn from ACER and for BEREC, this chapter first briefly explores the energy sector. It includes an overview of the energy sector, focusing on electricity. Gas is part of the energy sector and is similarly managed to electricity and is thus not explored here. Next, a description of the IRAs and ACER's powers within this sector is given. ACER fosters cooperation among European energy regulators and ensures that market integration and the harmonisation of regulatory frameworks are achieved within the framework of the EU's energy policy objectives.[289] This description includes the history, structure, tasks and powers of the body. To conclude, this chapter addresses the proposal of the Commission for the reform of ACER.[290]

4.2 Energy Sector: an overview

The Treaty regarding steel, iron and coal created the concept of an internal market without barriers in the Union.[291] The idea for an internal market in energy was revived in the 1980s.[292] The EU promoted liberalisation in member states through directives on electricity and gas, which embedded competition.[293] To embed competition, Independent Regulatory Authorities (IRAs) were established[294] that were detached

[289] ACER, the agency, accessed on 8/2/2019, available on https://www.acer.europa.eu/en/The_agency/Pages/default.aspx

[290] ACER Proposal (n 51)

[291] "*The Treaty establishing the European Coal and Steel Community (ECSC), or Treaty of Paris, was signed on 18 April 1951 and came into force on 25 July 1952. For the first time, six European States agreed to work towards integration. This Treaty laid the foundations of the Community by setting up an executive known as the 'High Authority', a Parliamentary Assembly, a Council of Ministers, a Court of Justice and a Consultative Committee*.", The First Treaties, accessed on 8/2/19, available on http://www.europarl.europa.eu/ftu/pdf/en/FTU_1.1.1.pdf

[292] European Commission, COM (1988) 238: The Internal Energy Market (Commission Working Document) https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:51988DC0238&from=EN

[293] Directive 96/92/EC of the European Parliament and of the Council of 19 December 1996 concerning common rules for the internal market in electricity and Directive 98/30/EC of the European Parliament and of the Council of 22 June 1998 concerning common rules for the internal market in natural gas.

[294] "*States shall designate one or more competent bodies with the function of regulatory authorities. These authorities shall be wholly independent from the interests of the electricity industry*." (Article 23,

from market incumbents and players.[295] Differences identified are the environmental protection and additional actors like the Council of European Energy Regulators (CEER) and the European Network of Transmission System Operators (ENTSO).[296]

The energy sector belongs to the category of network industries, meaning it works with infrastructure and delivering products. Unlike the Internet which requires energy and connected points for the transmission, electricity cannot be produced and then stored. It must flow or be wasted.[297] This network industry therefore has many layers for delivering services, including the levels of production, transmission and retail distribution. Entities being active in one of the layers, usually have activities on more layers, thus being vertically integrated.

Mainly, the chapter focuses on ACER regulation,[298] but with regard to the Electricity Directive[299] that also imposes public service obligations. To understand whether there is more information to pool on the quality of access, other instruments from the current framework may be used at times.[300]

4.2.1 Public Service Obligation

Energy is a product that should be accessible to everyone and it belongs to the broad category of general economic services.[301] The energy sector, like the electronic communication sector, contains the concept of non-discriminatory access for all citizens, regardless of geographical location.[302]

It is not commercially profitable to guarantee universal access and invest on infrastructure that would accommodate the distribution of energy to remote areas, but it is essential to do so. Public Service Obligation (PSO) is established in the energy sector to ensure that if the market fails to grant access to all, states will intervene.[303]

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paragraph 1, Directive 2003/54/EC of the European Parliament and Council 26 June 2003 concerning common rules for the internal market in electricity

[295] Commission Staff Working Paper Interpretative, Note On Directive 2009/72/EC Concerning Common Rules For The Internal Market In Electricity And Directive 2009/73/EC Concerning Common Rules For The Internal Market In Natural Gas, accessed on 8/2/19, available on https://ec.europa.eu/energy/sites/ener/files/documents/2010_01_21_the_regulatory_authorities.pdf, p. 5-6

[296] See CEER at section (acer) and ENTSOs, are the European networks of the transmission operators. accessed on 20/03/2019, available on https://www.entsoe.eu/

[297] Hannah Kruimer, The non-discrimination obligation of energy network operators, Intersentia, 2014, p 10

[298] ACER (n 26)

[299] Electricity Directive (n 32) art 3(3).

[300] The current legislative framework consists of Directive 2009/72/EC concerning common rules for the internal market in electricity, Regulation (EC) No 714/2009 on conditions for access to the network for cross-border exchanges in electricity and repealing Regulation (EC) No 1228/2003, Regulation (EC) No 715/2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) No 1775/2005, Regulation (EC) No 713/2009 of the European Parliament and of the Council of 13 July 2009 establishing an Agency for the Cooperation of Energy Regulators and Regulation (EU) No 347/2013 of the European Parliament and of the Council of 17 April 2013 On Guidelines For Trans-European Energy Infrastructure.

[301] Bram Delvaux, Michael Hunt and Kim Talus (eds), EU Energy law and Policy Issues, Volume 4, ERLF Collection, Intersentia, 2014, p 227

[302] The concept of non-discriminatory access is depicted as a public service obligation.

[303] Electricity Directive (n 32) art 3(3).

Electricity directive establishes the PSO.[304] A PSO gives member states the opportunity to legislate nationally to ensure basic access to electricity. Among other features, the PSO grants access, affordability and environmental protection and access in remote geographical locations – and at a certain quality.[305] [306] The member states must define the PSO clearly and transparently, without discrimination against market incumbents.[307]

The initial thought of researching the energy sector regarding quality was condemned as the electricity directive does not define parameters at the European level, for quality measurement.[308] [309] The concept seems a bit underdeveloped. It is stated that when granting access to these services they should be of a specified quality; however, there seems to be only this obligation for designated undertakings. Nevertheless, the transparency obligation seems to apply to all undertakings in order to provide services to consumers.[310]

4.2.2 No equal principle for net neutrality

According to the Benchmark report of CEER,[311] three factors are associated with the QoS in electricity. These are commercial quality standards, voltage quality standards, and continuity of supply.[312] Commercial quality concerns the transactions between electricity companies and customers.[313] Voltage quality refers to a wide range of voltage disturbances and deviations in voltage waveform.[314] Continuity of supply concerns interruptions in electricity.[315] These are not regulated at a European level but rather at a national level, with only the commercial aspect being developed and imposing minimum obligations.

There is national quality monitoring, but it only monitors large interruptions and there is no harmonisation for the indicators or monitoring methods. Also, in electricity, quality can be affected even by a new entity being connected to the grid.[316] CEER suggests that manufacturers, distributors and users can be responsible for voltage quality and continuity of supply, and thus liable too.[317] Moreover, CEER suggests the

[304] Ibid.
[305] Electricity Directive (n 32), art, 3(3)
[306] Quality of Electricity Supply, The Energy Agency of Slovenia: "*Quality of electricity supply in everyday life means a minimal number of interruptions and their duration kept to a minimal period of time. A safe and satisfactory device operation is ensured when the devices are connected to voltage which is within the prescribed tolerances for voltage and frequency. Even short-term interruptions on the basic form of voltage can cause irregular operation of devices."* accessed on 10/02/2019, available on www.icrepq.com/icrepq-08/235-sersen.pdf
[307] Electricity Directive (n 32), Article 3(2)
[308] Ibid.
[309] 6th CEER Benchmarking report on the quality of electricity and gas supply, 2016, accessed on 10/03/2019, available on https://www.ceer.eu/documents/104400/-/-/d064733a-9614-e320-a068-2086ed27be7f, p 60
[310] Electricity Directive (n 32) art 3(7) and ANNEX III
[311] 6th CEER Benchmarking report (n 309)
[312] Ibid. p. 3-4
[313] Ibid. p. 111
[314] Ibid. p. 81
[315] 6th CEER Benchmarking report (n 309), p. 19
[316] Ibid. p. 81
[317] Ibid.

harmonisation and standardisation of these at a European level.

Nevertheless, it is assumed that there is no equivalence to net neutrality while no definition of the parameters exists at a European level. There are only fragmented national approaches and the European Standard EN 50160.[318] It is thus safe to say that quality in electricity is not harmonised and could be underdeveloped in Europe.

4.3 ACER and IRAs

4.3.1 IRAs

The second package of electricity directives made IRAs mandatory for each member state.[319] The detachment from governments was essential to liberalise the market. The solution was the creation of the IRAs to implement the energy framework gradually, steadily and at a pace suited to each state.

Among other enforcement powers, IRAs can approve or fix tariffs or the methodologies underlying the connection between operators and users of the grid.[320] In carrying out those tasks, IRAs should ensure that transmission and distribution tariffs are non-discriminatory and cost-reflective. They must also consider the long-term, marginal and avoided network costs from distributed generation and demand-side management measures.[321] Regarding market incumbents, IRAs and member states are also responsible for granting the right to access the electricity networks. Moreover, IRAs must monitor the public service obligation.[322]

4.3.2. ACER

4.3.3 History of ACER

In addition to the IRAs that exist in the sector, ACER assists member states in implementing the regulatory framework in every country, consistently and coherently. The predecessor of ACER was the European Regulators Group for Electricity and Gas (ERGEG). The Commission founded this group in 2003[323] to facilitate the project of liberalising the markets and to implement the framework for the energy sector. Before the Commission created ERGEG, the IRAs formed a platform of communication called CEER (Council of European Energy Regulators) in 2000.[324] CEER is still active. ERGEG was built on this unofficial platform, and later ACER replaced ERGEG.[325]

The role of ERGEG was advisory and coordinative.[326] It provided a platform for heads

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[318] Ibid.
[319] Peter D Cameron, Raphael J Heffron, *Legal aspects of EU regulation: The consolidation of Energy Law across Europe*, 2nd edn,, Oxford University Press, 2016, p. 52
[320] Electricity Directive (n 32) rec (36) "*National regulatory authorities should be able to fix or approve tariffs, or the methodologies underlying the calculation of the tariffs, on the basis of a proposal by the transmission system operator or distribution system operator(s), or on the basis of a proposal agreed between those operator(s) and the users of the network*."
[321] Electricity Directive (n 32) art 37
[322] Ibid. para 4 and art 3(3)
[323] 2003/796/EC: Commission Decision of 11 November 2003 on establishing the European Regulators Group for Electricity and Gas (Text with EEA relevance)
[324] CEER is still active, accessed on 10/12/2018, available on https://www.ceer.eu/
[325] Cameron and Heffron (n 319), 2016 p.53
[326] ERGEG (n 323)

or members of the IRAs to exchange information and to advise the Commission on various issues regarding the internal market, particularly the preparation of draft implementation measures in the field of electricity.[327]

4.3.4 Structure of ACER

Regulation 713/2009 established ACER as a full-fledged decentralised agency.[328] This law was part of the third energy package reform. ACER is structured as follows: it has an administrative board, a board of regulators, a director, and a board of appeal.[329] The administrative board takes care of the professional and administrative work, such as budget issues. The board of regulators decides on the function of the expert working parties and forms decisions, opinions and recommendations – namely the tasks of ACER. Senior executives of the IRAs and a non-voting Commission representative compose this internal managing committee. The board of appeal is independent of the rest of the structure and is responsible for handling complaints that are lodged against ACER decisions.[330]

Different working groups for gas and electricity exist to coordinate and organise the activities. A decision of the director establishes these groups.[331] External expert groups also consult with the administrative board of the agency on various technical issues.[332]

The EU has conferred formal authority to ACER. However, having formal authority does not always include having real power.[333] Simply said, among such agencies, ACER seems to be one of the more powerful, as it has residual decision-making power and quasi-binding powers for creating binding guidelines.

4.3.5. Tasks of ACER

The agency's mission is to coordinate and assist the work of IRAs in creating the internal energy market for electricity and implementing its regulatory framework consistently. Implementation and its enforcement were inconsistent and uncoordinated in the member states, which justified the creation of an agency according to subsidiarity.[334] [335] A designated agency was thus established to monitor the implementation of the framework. Among other competences, it monitors the wholesale energy markets and retail level in compliance with consumer rights in Europe.[336] [337]

In performing its main tasks of monitoring the markets and coordinating the IRAs, ACER issues opinions and recommendations addressed to the transmission operators

[327] ERGEG (n 323) art 1(2)
[328] ACER (n 26)
[329] Ibid. art 3
[330] ACER (n 26) rec 19
[331] ACER (n 26) art 17(5)
[332] ACER (n 26) art 12(3) and Art13(6)
[333] Levi-Faur (n 22) p.811
[334] Energy Union Package, COM(2015) 80, final, p.2 and p.3 "*We have to move away from a fragmented system characterised by uncoordinated national policies, market barriers and energy-isolated areas*." And "*Despite progress made in recent years (...) the European energy landscape is still too fragmented*."
[335] ACER (n 26) rec 29
[336] ACER (n 26) art 11
[337] Ibid.

(TSOs) and to the IRAs at the request of the Commission or at its own initiative.[338] On some occasions it can issue binding decisions.[339]

ACER exercises residual decision making with regard to regulatory exemptions[340] [341] for new infrastructure, and the terms and conditions of access to a network for market incumbents.[342] However, ACER practices this residual decision making only when IRAs cannot, in a specific period, reach a decision on their own about cross-border infrastructure issues.[343] An example of ACER's binding residual power is a recent decision on an interconnector proposed between France and UK,[344] where the respective IRA asked ACER[345] to decide on the matter.[346]

ACER issues guidelines for network codes.[347] The electricity network codes are developed by ENTSO,[348] and they govern all cross-border electricity market transactions and system operations.[349] Codes and guidelines rule the cross-border interconnection of networks to ensure supply security, competitiveness and affordability for consumers.[350] An example of network codes and guidelines relate to congestion management (2011).[351] They complement and clarify principles, general terms and regulatory mechanisms to be adopted.[352] When ENTSO develops the codes, it is mandatory to involve technical experts, certain IRAs, and the EC, while ACER issues recommendations.[353] ACER is responsible for developing guidelines, which can be made binding through comitology procedure (with or without the codes).[354] Comitology is the procedure through which the Commission can give binding effect to

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[338] ACER (n 26) art 4 (a)(b).
[339] ACER (n 26) the individual decision, art 4(d).
[340] ACER (n 26) rec 10 and art 9.
[341] Delvaux and others (n 301) p 26, To facilitate the development of interconnectors on a voluntary basis, using capital sourced from outside the regulated system, the Regulation provides for exemptions from certain provisions of the regulatory framework when a project's risk level is judged by the relevant NRAs to be prohibitive to investment.
[342] ACER (n 26), art 9(1)
[343] Acts of the Agency, the official website of ACER, accessed on 26/03/2019, available on https://acer.europa.eu/Official_documents/Acts_of_the_Agency/Pages/default.aspx
[344] Decision of the Agency for the Cooperation of Energy Regulators No 05/2018 Of 19 June 2018, On The Exemption Request For The Aquind Interconnector.
[345] ACER On the Exemption Request for the Aquind Interconnector, (n 344) par.3
[346] Art 17(1)(4)(5) considering the exemption of new interconnectors, of Regulation (EC) No 714/2009 Of the European Parliament and of the Council of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity and repealing Regulation (EC) No 1228/2003
[347] Ibid art 6(1)
[348] Ibid (n 346), art 4, art. 6(6)
[349]Electricity Network Codes and guidelines, accessed on 8/2/2019, available on https://ec.europa.eu/energy/en/topics/markets-and-consumers/wholesale-market/electricity-network-codes
[350] ACER (n 26) rec 9
[351] Framework Guidelines on Capacity Allocation and Congestion Management for electricity. FG-2011-E-001, 2011, accessed on 8/2/2019, available on https://www.acer.europa.eu/en/Electricity/FG_and_network_codes/Electricity%20FG%20%20network%20codes/FG-2011-E-002.pdf
[352] Zinzani (n 20) p 140
[353] Art. 11(1)(2), Regulation (EU) No 347/2013 Of the European Parliament and of The Council Of 17 April 2013 On Guidelines for Trans-European Energy Infrastructure and Repealing Decision No 1364/2006/EC And Amending Regulations (EC) No 713/2009, (EC) No 714/2009 And (EC) No 715/2009
[354] Ibid. rec 18 and Regulation (EC) No 714/2009, (n 346) rec 6 and rec 29

non-binding actions needed to ensure the uniform implementation of a law.[355] It allows ACER to adopt a general measure with the help of the Commission. ACER must monitor the implementation of the network codes and guidelines and their effect on harmonisation.[356] Furthermore, Regulation 347/2013 enhances ACER's monitoring and advisory tasks on the trans-European networks.[357]

4.3.6 Proposal for reform of ACER

The aims of reforming ACER are laid down in the Commission proposal.[358] They relate to further liberalisation and strengthening of the interdependence of the relationships between member states, to achieve supply security and sustainability in the energy sector and inter-state trade. In brief, the aim is to enhance the "*effective trading electricity across borders*".[359]

Under the fourth package, the structure of ACER will remain the same: administrative board, board of regulators, board of appeal, and the director. The Commission assists with the composition of the administrative board and has a non-voting representative in the board of regulators. However, if the proposal is approved, ACER will have broadened powers and tasks in the effort to supervise the market and to facilitate the coordination between the IRAs.

Concerning transmission,[360] ACER is responsible for handing in the final proposal for network codes. The network codes are accompanied by non-binding guidelines issued by ACER; these guidelines must be aligned with the codes. ACER can review the final draft network codes to ensure adherence to its guidelines.[361] The agency will also be able to decide on terms, methodologies and algorithms.[362] The procedure envisaged by the Commission will be much leaner and better defined. Within the field of regional supervision and coordination, any issue concerning only a few IRAs and their unresolved issues can be decided on by the Board of Regulators, bearing in mind the opinion of the director.[363]

If the proposal is adopted,[364] the agency will be able to facilitate communication between the IRAs and between IRAs and the Commission. This will help to implement

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[355] European Commission, Comitology, accessed on 26/02/2019, available on https://ec.europa.eu/info/implementing-and-delegated-acts/comitology "*EU laws sometimes authorise the European Commission to adopt implementing acts, which set conditions that ensure a given law is applied uniformly. Comitology refers to a set of procedures, including meetings of representative committees, that give EU countries a say in the implementing acts*". The site also refers to Regulation 182/2011 that lays down the rules of the Comitology procedure.

[356] ACER (n 26) art 6(6)

[357] Regulation (EC) No 714/2009 (n 346), art 5(3)

[358] ACER Proposal (n 51)

[359] ACER Proposal (n 51) p 12

[360] Supervising entities such as Transmission Systems Operators or their organisations ENTSO-E, (Transmission System Operators)

[361] ACER Proposal (n 51) draft rec19

[362] ACER Proposal (n 51) p. 22

[363] ACER Proposal (n 51)

[364] In the European Parliament, the proposal has been referred to the Committee on Industry, Research and Energy (ITRE), which adopted its report in February 2018, accessed on 26/09/2018 available on http://www.europarl.europa.eu/thinktank/en/document.html?reference=EPRS_BRI%282017%29599300

the complicated and sector-specific framework and assist in the creation of the internal energy market (IEM). In this context, ACER has certain tools that have reasonably strong binding effects

4.4 Conclusion

The EU deemed it necessary to embed competition to create a functional market through liberalisation and privatisation. As in electronic communications, technical knowledge and sector- specific provisions are needed for regulation of the sector. Another feature is the public service obligation that exists in the energy sector, granting energy access to all citizens. In the general context of consumer protection, there is the same transparency obligation; however, there is no other reference to quality as in the field of electronic communications. This has led to the unfortunate conclusion that although the expectation was to find something similar, the concept in energy is still in its infancy.

IRAs are regulatory authorities in each member state, which implement the electricity framework and help supervise and review relative activities. ACER is the agency that monitors their behaviour and fosters their cooperation. ACER issues opinions and recommendations to both transmission operators and IRAs.

Additionally, ACER is a full-fledged decentralised agency with an advisory role. It has the expertise to consult both on a national level and on a pan-European level, and to establish uniformity. Currently, the agency has two tools that can have binding effect. The first is residual decision-making power, which means ACER can help IRAs if they are incapable or unwilling to take decisions over cross-border issues. Second, ACER can issue opinions, recommendations and guidelines on network codes that are non-binding by nature, but can, combined with the network codes, be enforced though the comitology procedure.

The Commission proposal aims to somewhat expand ACER's role but without granting the agency any further powers. The proposal clarifies better the procedures and the tasks of ACER. Its powers lie mostly in cross-border issues, with the aim of creating an open market and environmentally sustainable energy.

Chapter 5: Analysis of the choice of tools

It is essential to analyse information arising from BEREC Chapter and ACER Chapter, to identify the tools that can enrich the powers of BEREC in the course of net neutrality. The appropriate tool for BEREC would have an immediate effect on all European markets, to establish harmonisation and enforcement tools to correct unwanted behaviours. However, this suggestion is unfeasible. The rule is that this type of governance -agencies and networks- does not possess these powers, especially because of subsidiarity. ACER, the study case, can only take binding decisions over cross-border issues related to exemptions when it is needed or asked, and does not have other enforcement powers.

One more finding of this thesis is that the quality of electricity in energy is not regulated. Although in both frameworks the access to services is established, for electronic communications the concept is faring well, whereas in energy and electricity it is in its infancy. In this context, ACER does not have related tools/powers that could be useful to BEREC. Therefore, further analysis is required.

As seen in Chapter 2, Open Internet Access regulation is a technical and complicated law that requires expertise and technical knowledge as well as constant assessment. It seems clear that what needs harmonisation and guidance is the transparency obligation and the monitoring of the actual performance of the network; this would enable identification of irregularities and non-conformance with the content of contracts for end users. Moreover, the flexibility of the regulation, while giving room to ISPs to manage the traffic, also creates difficulties in assessment. In most cases, assessment should be on a case-by-case basis. This indicates that the enforcement can lack, if transparency and monitoring are not well established.

It is the view of the Commission, and of the author, that consumer protection enforcement should remain with the local regulators, the NRAs. However, to achieve harmonisation of implementation, the structure should balance at a European level. The proposal of the Commission for an agency instead of a network is supported by the current research, because BEREC needs binding powers to support harmonisation of net neutrality.

With regard to net neutrality, the proposal gives decision-making power over contract summaries to BEREC. This power will facilitate NRAs on assessing the contracts issued by ISPs consistently across EU. However, as discussed, this supports transparency, which is only one of two requirements to identify non-conformity among ISPs and to effectively protect net neutrality.

The second is to monitor quality and actual performance clearly and consistently. If transparency and monitoring are established consistently NRAs can focus on assessing the behaviours of ISPs and enforce the regulation when required. BEREC lays guidelines, which contain definitions and methodologies. However, to consistently apply the regulation assessments, there should be a binding common structure.

ACER has two tools that can have binding effects; Residual decision-making and guidelines over network codes that can be proposed for adoption. Residual decision-making power is given to ACER over cross-border, regional supervision that requires the collaboration of IRAs on specified exemptions. Network codes and guidelines

contain algorithms and methodologies for the transmission networks. They can be made binding through comitology procedure and foster harmonisation across EU.

A tool resembling network guidelines and codes could be the best fit for BEREC and net neutrality. It should be noted that although there are many similarities in the approaches of the frameworks in the two sectors, many aspects are not equivalent (see chapters 3 and 4). To fit this measure to the electronic communication sector, it should be restructured and fitted according to subsidiarity and proportionality and in the course of net neutrality.

The reasons of the suitability of the tool are as follows: 1) BEREC would issue guidelines on net neutrality with non-binding effect. Guidelines would define steps of the zero-rating assessment, the methodology and other technical characteristics of monitoring mechanisms and 2) Sections of the guidelines could be made binding and be adopted consistently to ensure that all mechanisms have the same underlying principles.

A tool with these features can help the implementation of the framework, ensuring that NRAs have the basis to build on both monitoring and enforcement of the framework. NRAs could then focus on applying these in view of their national needs and characteristics. BEREC would not violate their spheres of authority regarding enforcement, or the actual implementation of assessments on any ISP. This tool would map out steps and methodologies, creating the basis for net neutrality to be implemented consistently, without BEREC gaining excessive power.

Regarding enforcement and remedies, the member states have the responsibility of defining penalties and remedies, and the NRAs implement them. Although, the envisaged agency will possess a ‘double-lock veto’ (Framework 7) for SMP review and remedies to dominant players, this will not apply to remedies arising from the Open Internet Access regulation. The regulation is excluded from the wording of the provisions of the procedure, as it addresses remedies arising from directives. Moreover, national remedies regarding the consistent application of the law cannot undergo scrutiny (Framework 7a), for the same reasons. Therefore, another change could be made; the turn of the regulation into a directive. This would give the right to scrutinise the measures that can affect harmonisation and competition, including those arising from net neutrality. For example, a remedy regarding a zero-rating imposed on a dominant player could undergo the Framework 7 procedure (‘double-lock veto’), if arising from a directive and not a regulation. BEREC would be better equipped to guard net neutrality at a European level, granted the law could undergo these procedures.

6. Conclusion

Net neutrality is essential for the quality of the Internet. The first reason is access to the Internet and the second is architecture combined with competition, privacy and freedom of speech. The Open Internet Access regulation is technical and flexible and concerns the fair management of data traffic by ISPs. It regulates all aspects around Internet access service to be fair and balanced with the rights of consumers. To identify violations and enforce penalties, it requires constant monitoring and assessing. This has two aspects: the transparency obligation and the actual monitoring of performance. The transparency obligation is well established in the regulation and the USD. The actual monitoring requires a certified monitoring mechanism by the NRAs, which can cause issues of harmonisation.

What tools could be added to BEREC to protect net neutrality in Europe? In its current state, the body is a network and only carries soft law tools; it offers guidelines, opinions, recommendations and consultations. These do not seem sufficient to harmonise and protect net neutrality at a European level. BEREC should be an agency that has tools with binding effect for net neutrality. Enforcement tools would be useful for BEREC and net neutrality. However, because of subsidiarity and proportionality, NRAs should be the bodies to enforce regulations as they are closer to the consumers and service providers.

The proposal for reform indeed transforms BEREC into an agency and it creates a harmonised obligation for transparency. This will be the result of having binding power over the content of contracts and will ensure one aspect of monitoring compliance. To cover the actual monitoring, BEREC does not have tools other than guidelines and consultation, although stakeholders require more.

In this regard, from the pool created by ACER, BEREC could use the quasi-binding power for network codes and guidelines through comitology procedure. This would be based on the guidelines that BEREC has provided for net neutrality and would establish methods and steps for assessment and calculation of the effects on end users. In the codes, NRAs could find monitoring mechanisms and methodologies ready to be used, and the aligned guidelines. Once they have this information, the guidelines could pass through the comitology procedure and have binding effect. This tool, if tailored to the needs of BEREC and NRAs, could be truly useful for implementing and enforcing the Open Internet Access regulation.

Additionally, it could be considered to change the regulation into a directive, to achieve scrutiny of the national remedies and measures arising from net neutrality. BEREC, which by the proposal, will have an enhanced role in the Framework procedures, could then identify possible problems related to the distortion of competition and the harmonisation of the law across Europe.

A final word is required before ending this thesis, regarding the quality of access in energy and electricity. More steps should be taken to ensure this quality at a European level. Concerning what tool could be added to the BEREC powers, the answer is codes and guidelines. If this tool is added to BEREC powers as an agency, it would give holistic and harmonised protection of net neutrality in Europe. It is important to research how this tool could be tailored to address the needs of the regulation as well

as the needs of BEREC and the NRAs, to contribute to the protection of the law. This step would create a “safety net” to protect end users online at many levels and would thus protect the Internet as a crucial tool in society, today and in the future.

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