

POLITECNICO DI TORINO

Corso di Laurea Magistrale in *Ingegneria Gestionale*
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**Master's degree
in Engineering and Management**

The phenomenon of lobbying in the European Union

The access to the European Commission in the radio spectrum policy area



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Abstract

The lobbying phenomenon in the European Union is a practice, performed by lobby groups, that want to exchange policy-relevant information with the institutions to access the policy-making processes and promote their interests. This exchange is possible because of the need of institutions to receive technical advices from external actors for better regulate. The aim of this thesis work is to analyse thoroughly this phenomenon, and to do so, given the complexity and the multitude of possible lobbying channels in the EU, it was decided to investigate a specific policy sector: the radio spectrum area.

The radio spectrum management is a matter that is attracting more and more attention in EU policy agenda. The overall goal is to enable European consumers to benefit from provision of high quality and innovative services based on radio spectrum, such as WiFi connection, mobile broadband, TV broadcasting and many others digital technologies that are transforming the world.

The presence of many different stakeholders, belonging to different market sectors, makes it valuable to analyze and investigate EU lobbying in the radio spectrum policy area.

The focus of this thesis work will be directed on lobbying activities to the European Commission, that is helped in his regulatory proposal role by the Radio Spectrum Policy Group, when it comes to radio spectrum issues. The main purpose of this thesis work is to map the lobbying environment around the RSPG and understand who are the main actors involved in this process. To do so, a qualitative analysis of RSPG documents is performed and the main findings have been compared with the existing literature on the topic.

The outcomes of this work will be useful to enlarge the knowledge in a double perspective: from an academic point of view, this work add a piece to the existing literature on this controversial phenomenon, and from a technical point of view, helps to better understand some dynamics and mechanism of the complex lobbying phenomenon.

KEYWORDS: *Lobbying phenomenon, radio spectrum, RSPG, lobby groups, EU institutions, access.*

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List of Abbreviations

APT	Asia-Pacific Telecommunity
ASMG	Arab Spectrum Management Group
ATU	African Telecommunications Union
CEPT	European Conference of Postal and Telecommunications Administrations
CITEL	Inter-American Telecommunications Commission
CJEU	Court of Justice of European Union
DSM	Digital Single Market
EC	European Commission
ECC	Electronic Communications Committee
EEA	European Electronic Area
EEC	European Economic Community
EK	Expert Knowledge
EP	European Parliament
ETSI	European Telecommunications Standard Institute
EU	European Union
IDEI	Information about Domestic Encompassing Interests
IEEI	Information about European Encompassing Interests
ITS	Intelligent Transport System
IoT	Internet of Things
ITU	International Telecommunications Union
MEP	Member of European Parliament
NGO	Non-Governmental Organization
NRA	National Regulatory Authority
OLP	Ordinary Legislative Procedure
RCC	Regional Commonwealth in the Field of Communications
RR	Radio Regulations
RSC	Radio Spectrum Committee
RSP	Radio Spectrum Policy
RSPG	Radio Spectrum Policy Group
TFA	Table of Frequency Allocations
TFEU	Treaty of Functioning of European Union
TR	Transparency Register
WRC	World Radiocommunication Conference

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CHAPTER 1

INTRODUCTION TO EUROPEAN UNION POLICY AND REGULATION PROCESSES

This master's thesis investigates the phenomenon of lobbying in the European Union (EU) with specific regard to the policy area of radio spectrum. Although the lobbying phenomenon has been attracting more and more interest in the political and academic debate, the knowledge on this topic is still limited. Therefore, the principal aim of this thesis work is to explore some aspects of this interesting phenomenon, with particular focus on the policy area of radio spectrum. A wide variety of actors from different market sectors have interests at stake when it comes to radio spectrum policy. This heterogenic composition makes it valuable to analyze and investigate EU lobbying in the radio spectrum policy area.

Before exploring the lobbying phenomenon, this master's thesis provides a detailed description of the EU context, in which lobbying activities take place. This will provide the reader with the background knowledge necessary to understand the dynamics of this complex phenomenon. In particular, this first chapter is divided into four sections that have the final goal to introduce the political and regulatory framework of the EU.

The sections are organised as follows:

the *first section* describes the EU policy and regulatory system, showing the main institutions involved in the EU policy-making process and their political and institutional tasks;

the *second section* describes the EU policy cycle, giving an overview of the main characteristics and describing the stages of the policy process and the roles that EU institutions play;

the *third section* focuses on the EU legislative process, describing the law-making procedure; the *fourth section* introduces the EU goal of major interest for this thesis work, the creation of the Internal Market, in particular referring to the creation of the EU Digital Single Market.

1.1 The EU regulatory system

The EU project dates back to 1957 when six European countries – Belgium, France, Germany, Italy, Luxembourg and the Netherlands – founded the European Economic Community (EEC). Since then, other European countries have begun to believe more and more in the creation of a political and economic union, which resulted in the existing EU, currently gathering together 28 member states.

Over the years, the EU policy portfolio has expanded. Nevertheless, the development of the EU internal market, based on the concept of the so-called “four freedoms” (Barnard, 2015), remains at the core of the EU’s policy portfolio. The EU internal market is described as a seamless space where people, good, services and capital can freely circulate across EU countries.

At the same time, the organization of the European institutions has changed and evolved, to ensure a more EU-oriented legislative framework, where the governments of the EU member states gradually depend more and more on the decisions taken at EU level.

The EU regulatory system is composed of several institutions, which have the objective to provide better economic and social conditions, guaranteeing a fair competitive market and enhance the life of citizens and business. The main EU institutions are: the European Parliament (EP), the Council of Ministers (Council), the European Commission (EC), the European Council and the Court of Justice of the EU (CJEU).

As shown in Figure 1, these institutions share legislative, executive and judiciary powers. They differ from one another in terms of their members and related powers they exercise. In particular the EP, the Council, the EC and the European Council are political institutions, whose members are politicians from the EU member states (Buonanno & Nugent, 2013) and they are charged by policy functions. The CJEU has also an important policy role, because of its judgments, but its members are not politicians, but judges, from the EU member states. In addition, it is important to emphasize that there is a clear distribution of legislative, executive or judiciary powers between the institutions: executive power is shared between the EC, the European Council and the Council, while legislative power is shared by the EC, the EP and the Council. The judiciary power is mainly in the hand of the CJEU.

and Security Policy takes part in European Council meetings when foreign affairs issues are discussed.

1.1.2 The European Commission

The EC is the principal actor in many aspects of the EU policy-making process: its role is very central, both in legislative and executive functions. The role of the EC is key for the initial phase of policy-making processes: indeed, the EC is the only EU institution that has the so-called “power of legislative initiative”, although there exist other mechanisms to initiate a legislative procedure, in certain specific circumstances (Buonanno & Nugent, 2013).

The EC’s executive functions are mainly concerned with monitoring and overseeing implementation of and compliance with EU law by the EU member states. This control process is either implemented by the EC itself, or delegated to national policy agencies.

The EC is composed by the College of Commissioners, headed by the President of the EC. The College of Commissioners is composed by one Commissioner from each EU member state, nominated at national level and then approved by the EP. The president of the EC is selected by the European Council with the approval of the EP.

1.1.3 The European Parliament

The EP shares legislative power together with the Council. In addition to this power, the EP has two other important functions: first, it has to control the EC’s work, examining the work of the Commissioners and highlighting any problems; and secondly, it is responsible for approving the annual budget of the EU activities and projects. The most important feature that distinguishes the EP from the other institutions, is that the 750 members of EP (MEP) are elected from the citizens of the EU member states. For this reason, the EP is considered the most democratic EU institution.

1.1.4 The Council of Ministers

The Council exercises legislative power together with the EP, forming a sort of bicameral system. Once a legislative proposal is drafted by the EC, the Council and the EP develop

their own positions on the content of the legislative proposal. A dialogue is put in place between the Council, the EP and the EC in order to reach an agreement. Such dialogue may involve several rounds of negotiations, as better explained in the section 1.3 below.

The Council is composed of ministers from every EU member states, organized in various groups, depending on the policy matters to be addressed.

1.1.5 The Court of Justice of European Union

The CJEU is not strictly a policy-making institution, but it plays an indispensable role as a monitoring body. Its main tasks concern interpretation and application of EU Treaties. The Court ensures the legality of the decisions made by the EU institutions and promotes the integration between EU members states. Similar to other EU institutions, the CJEU is composed of one representative, i.e. one judge, from each EU member state.

After this brief overview of the EU institutions and their main powers, useful to better understand this big and complex policy-machine, it is now necessary to focus on the policy cycle and the legislative procedures of the EU.

1.2 The Policy Cycle

The expression 'policy cycle' identifies the process of creation of public policies. More specifically, the policy-cycle is defined as '*a set of interrelated stages through which policy issues and deliberations flow in a more or less sequential fashion from "inputs" (problems) to "outputs" (policies)*' (Howlett et al., 2010). The division in stages is not rigid and there may be variations in some cases. According to existing literature (Buonanno & Nugent, 2013) (Guptka, 2001), the main stages of a policy cycle are: agenda-setting, policy formulation, decision-making, implementation and evaluation. (see Figure 2 below)

Describing each step of the cycle individually is considered useful to improve the description of the European regulatory context provided in the preceding paragraphs and will serve as an introduction to the main topic of this thesis: the phenomenon of lobbying.

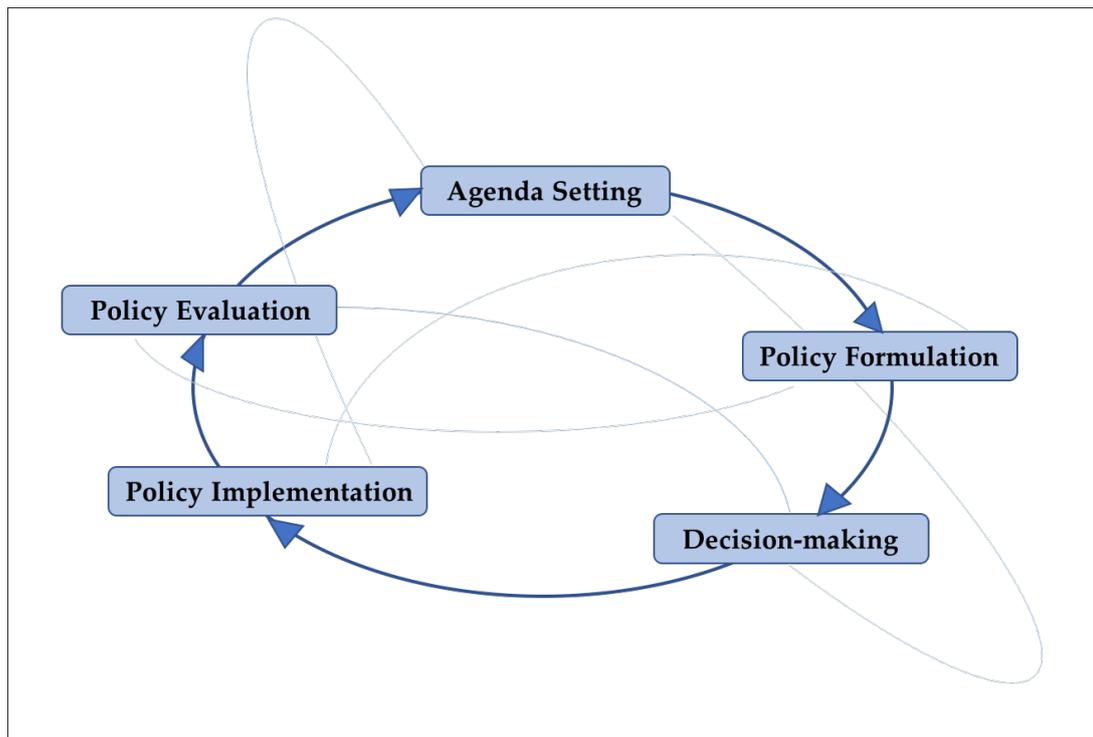


Figure 2 Policy cycle of the EU

1.2.1 Agenda Setting

The first stage of the cycle is the agenda setting, that is the beginning of the policy process: it takes place when an institution pays serious attention to an issue and want to create or modify a policy to regulate and manage this issue. It is possible to define two different types of agenda: the governmental and the decision agenda (Buonanno & Nugent, 2013). The governmental agenda consists of problems in which specific proposal are not yet being taken in consideration and in which there is still a need to understand what to do, while the decision agenda contains issues which are already being discussed and investigated and there is a decision to take.

As explained in the previous paragraph, the European Council's main role is to determine the EU's general political direction and priorities. Traditionally, this is done by adopting conclusions during European Council meetings, where specific issues of concern for the EU are identified and particular actions to be taken are outlined (European Council, 2015).

1.2.2 Policy Formulation

The task of creating new regulatory proposals is entirely in the hands of the EC, but there are a lot of other actors who are capable of influencing the formulation of policies (Buonanno & Nugent, 2013). This is also due to the own nature of the process: indeed, the EC needs external opinions to create a proposal that takes into account the views of all possible stakeholders. Once an issue has been recognised as important, it is necessary to formulate specific policy proposals. The policy formulation stage consists of a process of shaping policy alternatives with the help of other actors, and in the end, selecting the best one to be proposed to EP and Council for the final approval.

The EC is the core actor of this stage, nevertheless the external advice of other actors is very important for the formulation of policies. External actors can be many and of different kind, for example consultancy firm, non-governmental organisations (NGO), lobbying companies and other EU institutions. What is certain is that before issuing policy or legislative proposals the EC usually consults widely (Buonanno & Nugent, 2013).

This consultation process can have different forms. One of the most common is the consultation call, where the EC publishes a paper with its position regarding an issue and invites all potential stakeholders to submit their ideas or thoughts about it.

Another type of consultation is through meeting with private firms and experts, or direct exchange of ideas with representatives of EU member states or Council and MEPs.

There are two main reasons why as many actors as possible need to be involved: first, the policy matters can be very wide and different, and the EC does not have specialized knowledge in every single policy ground, so external advisors may be a valid option to increase the quality of the proposal; second, hearing the will of all the stakeholders may ensure a faster process in the following stages of the cycle, minimizing conflicts and resistance in the decision-making phase.

1.2.3 Decision-making

The proposals formulated in the previous stage are evaluated and decided upon by the decision-making bodies. This is the stage where more actors are involved, due to the extreme importance of the decisions taken.

In the EU decision-making stage there are both national and supranational bodies, interested in the results of this process: indeed, both governments and member states politicians, at national level, as well as the European Council, the EP and the Council, at EU level, are involved. This kind of relationship between national governments and EU policy bodies is indispensable. As Majone pointed out *'just as policy-making in the Member States can no longer be explained exclusively in national terms, so it is impossible to understand the development of [EU] regulatory policy-making as if the only important political actors were the national governments'* (Majone, 1991).

Since there are many different opinions between actors, in particular when a sensitive policy issue is addressed, this process is often slowed down by the discrepancies between the parties. The final decision is eventually jointly taken by the EP and the Council, as it will be better explained in the next section (see Section 1.3).

1.2.4 Policy Implementation

The implementation of a policy is a very complex process at EU level, because of the multi-layered nature of the EU system and the number of different actors that are involved. The core-role of this stage is played by the EC, who has to oversee the correct putting into effect of the EU policies, but it is far from being the only body involved. Indeed even the Council, the External Action Service and the High Representative are actors of this process. Even the CJEU is responsible for the proper application of the EU laws in the member states. Art. 288 of the Treaty of the Functioning of the EU (TFEU, 2012)¹ states that there are five forms of legislation: regulations, directives, decisions, recommendations and opinions. Recommendations and opinions have no binding force. They enable EU institutions to make statements, without imposing any legal obligation on member states. The other three forms are legally binding and, therefore, worth closer attention.

¹ Available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A12012E/TXT>

Regulations are technical or specific adjustments to existing policy that enter into force, without needing to be transposed into national law. They apply automatically and uniformly and are binding in their entirety in all EU countries.

Directives set out a certain goal to be achieved by the EU member states, which are let free to choose the better way to reach set goal. Decisions are binding legal acts generally addressed to specific EU countries. It is possible to define three main different aspects of the implementation system, which would guarantee the achievement of the goal set (Buonanno & Nugent, 2013):

- Transposition of directives into national law;
- Management of administrative details necessary to give effect to the policy;
- Front-line application and enforcement of the EU law.

First, transposition is a key step in the implementation process because it permits to incorporate the content of a EU directive into national legal systems. Usually, the EU institutions set a deadline for the transposition and, if EU member states do not respect the procedure, ignoring or transposing incorrectly, then the EC first, and then the Court of Justice, can take action against the EU member states.

Second, directives are the main way used to give a legislative base to the EU member states, but due to the heterogeneity of national law systems, usually many policies require the support of the so-called administrative legislation. This is a tricky phase, in which EU institutions translate policy principles into more detailed laws, using regulations and decisions; the EP and the Council are directly responsible for the content of the directives, whereas EU member states are charged with the implementation of the laws.

Third, the daily front-line application of EU policies is left to the national authorities' hands, but the EC plays a monitoring role, trying to ensure uniformity and consistency in the application of law. In few cases, the EC itself, exercises direct power of implementation.

In case of presumption of non-compliance, a notification letter is sent by the EC to the EU member states involved and, if the issue remains unresolved, an investigation is carried out by the EC. If the investigation confirms the misconduct, the EC consults the CJEU, who has the power to fine the EU member states.

1.2.5 Policy Evaluation

The final stage of the policy cycle concerns the results of the policy implemented. It is essential for the EU institutions to make sure that the implementation of policies bring positive results. This process is not only an ex-post process, with the purpose of verifying the output of the legislative iter. In fact, the evaluation occurs during the entire process, confirming the need to view the policy cycle in a multidimensional way, not only as a linear sequence of stages.

1.3 The EU legislative process

The EU legislative process has been subject to various changes over the years, which have increased the power of its various institutions. The last change has been realized with the Treaty of Lisbon, which entered into force on 1 December 2009 and thanks to which the ordinary legislative procedure (OLP) became the general procedure for passing legislation at EU level. (EP, 2014).

The OLP is based on the core roles of three EU institutions: the EC, which draft legislative proposals, and the EP and the Council, which decide on the content of the proposal, reaching an agreement and a common opinion on legislative matters. To better understand the functioning of this process, it is possible to describe the steps of the OLP and define three main stages, as shown in Figure 3 below.

In the first stage, the EC creates legislative proposals, often after public consultations with potential stakeholders, including citizens, companies or member states. The final draft of the proposal is forwarded simultaneously to the EP, the Council and national parliaments. The President of EP refers the proposal to a parliamentary committee, which has the task of writing a report containing amendments to the proposed text. The EP then holds a plenary session where discusses and votes on the proposal on the basis of committee report and amendments. The EP can also accept the proposal without any changes and in rare cases request the withdraw of the proposal. The result of this procedure is the EP's first reading position, that is then forwarded to the Council. The Council reads the proposal in parallel with the EP's first reading but it may only formally conduct its first reading based on EP position. Indeed, the Council may decide to accept the EP position and allow the

adoption of the legislative act, or to make some changes and send back the proposal to the EP for a second reading, starting the second stage of the procedure.

The EP examines the Council's position and votes on the recommendation made by the Council, with different possible outcomes: first, the EP agrees with the Council's position and the act is adopted; second, the EP rejects the Council's position, the act is not adopted and the procedure is ended; third, Parliament proposes amendments to the Council's first reading position and forward its position to the Council for a second reading. The Council examines the EP's second reading position and, if it agrees with the EP amendments, then the legislative act is adopted.

If it does not approve all the amendments, the President of the Council and the President of the EC convene a meeting of the Conciliation Committee, starting the third and last stage of the process. The Conciliation Committee is composed of an equal number of MEPs and Council representatives. Its responsibility is to decide on a joint text based on the second the EP and Council reading positions. If the Conciliation Committee does not approve a joint text, the procedure ends and the legislative act falls; but if it approves a joint text then it is forwarded to both the EP and the Council for a third, and final, reading.

If one or both rejects it, the procedure is ended and can only be restarted from the beginning, with a new proposal from the EC; if they both agree with the joint text of the Conciliation Committee the proposal is finally adopted.

It's clear that the OLP is not an immediate process. It takes months and a lot of different actors are involved. The percentage of co-decision files adopted at the end of first reading is 85% of the total, and the average length of co-decision procedure is 19 months, varying from a minimum of 17 to a maximum of 32 months (EP, 2014).

The aim of these first sections was to give the reader an overview of the EU policy and legislative processes, which is fundamental to better understand the dynamics that will be explained in the following parts of this thesis work. The next paragraph deals with the objectives that the European institutions set to foster the development of the EU: the goal to create the internal market, and more specifically, the digital single market.

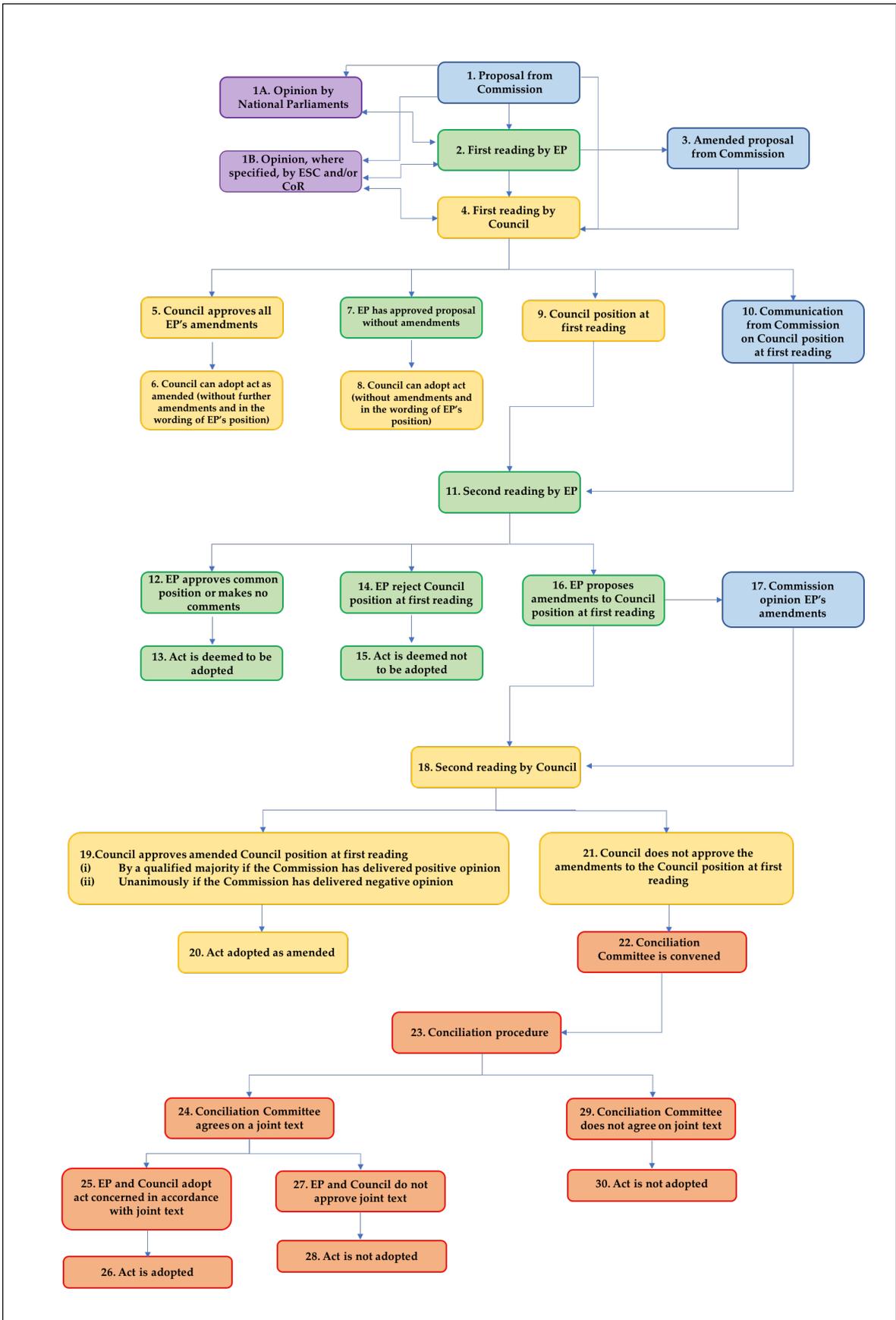


Figure 3 Scheme of the OLP process

1.4 The creation of the EU Digital Single Market

“Digital technologies are going into every aspect of life. All they require is access to high speed internet. We need to be connected, our economy needs it, people need it.”

Jean-Claude Juncker, 14 September 2016

Since the start of the EU integration process, the creation of the so-called single market has been one of the main EU policy objectives. The EU single market is a market where goods, services, capital and people can freely move in the EU across national frontiers².

Although the aim to create the single market was initially based on pure economic reasons, it gradually expanded to cover political and social issues as well. The creation of the single market is a constantly ongoing process and will continue to be so in the future (Buonanno & Nugent, 2013). The main reason for this lies in the difficulty of gathering together under one single umbrella all 28 member states, characterized by social, cultural and political differences. Four main issues can explain this problem (Buonanno & Nugent, 2013).

First, citizens and governments of different countries don't identify themselves primarily as European from a political, social, economical and psychological point of view, but they identify with their member states. Second, member states have different thoughts about the principles on which the single market should be based: some states believe that is preferable a liberal, non-interventionist, approach but others think it is better that single market has a collective public responsibility function. Third, member states have different ideas on what would be an efficient EU-wide market. Fourth, the market evolves over time and the continuous enlargement, with the introduction of new member states in the EU, just makes the “Europeanization” process of the market increasingly difficult. After all these considerations, it seems to be clear why the creation of the single market is a process started more than 50 years ago and still not completed. The EU institutions are constantly trying to stimulate this process, but the issues to take care of are still many.

² Art.26(2) of TFEU: ‘The internal market shall comprise an area without internal frontiers in which the free movement of goods, persons, services and capital is ensured in accordance with the provisions of the Treaties’

The focus of this thesis work will concentrate not on all the EU markets, but it will try to study in particular analysing the radio spectrum market and its inner dynamics.

The radio spectrum management is one of the main challenges that EU institutions will have to face, because this matter plays an important role for the development of the new technologies that will drive the digital innovation of the services in the years to come. This is why the radio spectrum policy area is part of a particular branch of the creation of single market issue, that takes the name of Digital Single Market (DSM).

1.4.1 A Digital Single Market

The development of digital technologies in the EU is an issue that has strategic, economic and social importance for all the EU member states. In 2015, the EU has started a DSM promotion programme, with the aim to create a wide European market to promote innovation and development of new technologies. This programme includes a comprehensive DSM strategy to promote investments in digital infrastructures and high-performance computing and cloud, to strengthen the creative sector and to boost e-commerce in the EU. Also, it is recognised the necessity to develop proper regulation to cover every layer of the digital ecosystem and several economic sectors (Renda, 2017). The DSM is expected to contribute €415 billion to the EU economy and it could create work opportunities for over 500 million people across the EU (EC, 2015)³. Moreover, the realization of the DSM could help the EU gain a leader position in the worldwide digital economy (EC, 2015).

To pursue the objectives of the DSM programme, the EC has put forward 38 policy initiatives of which 23 are legislative proposals since 2015 (European Parliament Research Service, 2015). The EU aims to provide the European citizens with better standards of consumer protection with new laws on e-privacy, digital contracts and geoblocking. The new directives on audiovisual and media services and copyright could help with content access and property issues. The DSM programme is also about providing, thanks to the adoption of new telecoms rules, a high capacity broadband connectivity access to all the EU members, *conditio sine qua non* a new digital revolution could not be achieved.

³ Data from EC report, available on:
<http://eurlex.europa.eu/legalcontent/EN/TXT/?qid=1447773803386&uri=CELEX:52015DC0192>

In the achievement of DSM, a key role is played by the management and use of the radio spectrum. The radio spectrum is a resource of great significance to all modern economies (Cave & Webb, 2015), giving the increasing number of services that relies on spectrum and the importance that they cover for the society. It is possible to see the spectrum management like a common basis for the development of new technologies and the improvement of existent applications. The goal of the EU institutions is to build an infrastructure of services and applications that relies on spectrum, and to do so, a more efficient allocation of the resource is necessary. In order to maximize the benefits that EU citizens may gain from the individual use of services or which they gain collectively, using public goods (Cave & Webb, 2015), there is a need for cooperation at the EU level to exploit the great opportunities offered by digital technologies, which know no national borders. In addition to traditional radio-based services such as mobile telephony, TV broadcasting or satellites, the radio spectrum finds its use to support the energy sector, with the diffusion of smart grid systems, the transport sector with the development of Intelligent Transport System (ITS), and many other sectors which are involved in projects related to the so-called Internet of Things (IoT), just to make a few examples.

In its last draft conclusion, the Council points out that *“To successfully build a Digital Europe, the EU needs in particular, a first rate infrastructure and communications network. This requires cooperation at the EU level, inter alia with the aim of achieving world-class very high-speed fixed and mobile networks (5G) all across the EU and increased coordinated availabilities of spectrum by 2020 under consistent regulatory and economic conditions...”* (EC, 2017).

In the context of the EU digital single market, this thesis work explores the radio spectrum market and its inner dynamics.

The radio spectrum management is one of the main challenges that EU institutions will have to face, because of the key role that the radio spectrum plays for this matter plays for the development of the new technologies that will drive the digital revolution in the years to come. In the next chapter, the spectrum will be described in a more detailed way, to better understand its main characteristics and to convince the reader of the importance of radio spectrum management.

Chapter 2

THE RADIO SPECTRUM MANAGEMENT

*“Life without the services reliant upon the
radio spectrum would be unthinkable”*

(Cave & Webb, 2015)

Today, people have the opportunity to communicate at any time, and with different means, regardless of where they are geographically located.

Since its birth, the wireless communication market has played an increasingly important role in everyday life and, at the same time, also the work routines have adapted to the spread of this technology. To have a sudden idea of what this phenomenon is, just think about how many times in one day a single person uses technology based on radio spectrum: reading email, calling by phone, watching TV, using GPS navigator and many more.

The radio spectrum is at the base of a lot of “every-day technologies” and this growing use of the wireless communications has created a need for management and regulation of radio spectrum.

At the end of the previous chapter the core role of radio spectrum for the future of DSM has been highlighted. Now it will be given the reader a more technical description of the radio spectrum, to better understand its features and the challenges of radio spectrum management.

2.1 The Radio Spectrum

The radio spectrum is a non-exhaustible resource, which means that it does not run out because of its use, but it is also non-storable because of its volatile nature: if a band is only partially or even not used at all in a certain period of time, there is no opportunity to recover it or to stock it. To give a more comprehensive definition of what the spectrum is, it is possible to observe it from a deeper technical point of view, describing the properties that make it unique among natural resources (Massaro, 2017).

The radio spectrum is the portion of the electromagnetic spectrum upon which all applications of wireless technology are based, such as mobile phones, television, internet connection and many others. Electromagnetic waves can be described as self-propagating transverse oscillating waves of electric and magnetic fields (Serway & Jewett, 2010). More precisely they consist of sinusoidal time varying electric and magnetic fields that are perpendicular to each other. They carry information by propagating through the vacuum at the speed of light.

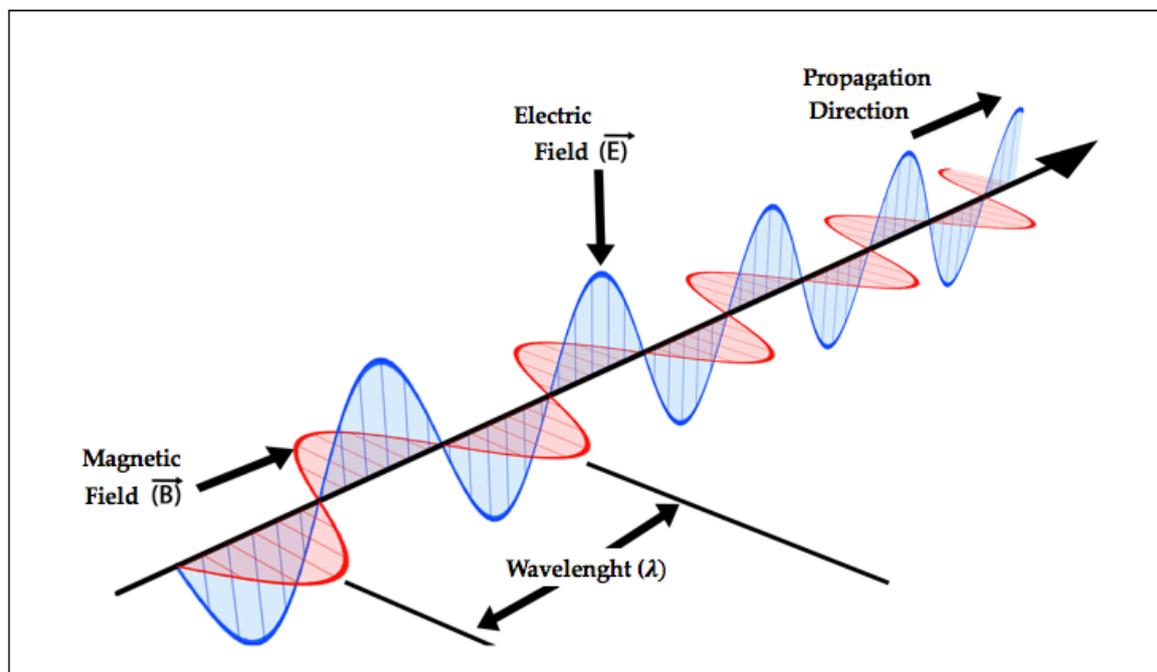


Figure 4 Electromagnetic Wave; Source: <https://byjus.com/physics/characteristics-of-em-waves/>

The main features of a wave are frequency, energy carried and wavelength. The frequency (f) of a wave is a measurement of the number of cycles that occur in a time unit and it is

expressed in hertz (cycles per second). The energy (E) carried by a wave is related to the amplitude, which is the height from the equilibrium point to the highest or the lowest point of a wave. The wavelength (λ) is the distance over which the wave's shape repeats and it is usually determined by considering the distance between consecutive corresponding points of the same phase, such as crests, troughs, or zero crossing (Serway & Jewett, 2010). The relations between these three variables, are illustrated by the following equations, where c is the speed of light in a vacuum and h is Planck's constant:

$$f = \frac{c}{\lambda} \text{ [Hz]}, \quad \text{or} \quad f = \frac{E}{h} \text{ [Hz]}, \quad \text{or} \quad E = \frac{hc}{\lambda},$$

It is possible to define a mathematical relation between these variables: frequency and wavelength are inversely proportional and frequency and energy are directly proportional: if the frequency increases, the energy will also increase, but, at the same time, the wavelength will decrease. Vice versa, if the frequency decreases, the energy will decrease too, but the wavelength will increase.

The position of an electromagnetic wave within the electromagnetic spectrum can be described in terms of its characteristics of frequency and wavelength. As shown in Figure 5, the electromagnetic spectrum includes, in order of decreasing frequency and increasing wavelength: gamma rays, X-rays, ultraviolet radiation, visible light, infrared radiation, microwaves and radio waves (Maxwell, 1865).

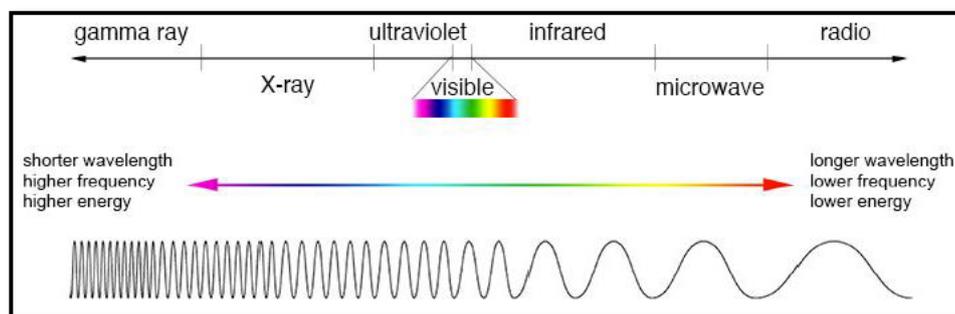


Figure 5 The electromagnetic spectrum ; Source: (Massaro, 2017)

These physical characteristics entail different technical qualities that can be used in many different applications. Low frequencies travel longer distances and are more desirable for their propagation characteristics, but have little capacity to carry information; on the other

hand, waves with higher frequencies have better information-carrying capacity, but have smaller propagation (Prasad & Sridar, 2014). Spectrum is heterogeneous because different frequency bands are suited to different application, but it is possible to have some degree for substitution of one band for another in certain uses (Cave & Webb, 2015).

Designation	Abbreviation	Frequencies	Wavelengths	Main Uses
Very Low Frequencies	<i>VLF</i>	3 KHz - 30 kHz	100 km - 10 km	Outreach radio navigation
Low Frequency	<i>LF</i>	30 kHz - 300 kHz	10 km - 1 km	Maritime and aeronautical radiolocation
Medium Frequency	<i>MF</i>	300 kHz - 3Mhz	1 km - 100 m	AM radio
High Frequency	<i>HF</i>	3 MHz - 30 MHz	100 m - 10 m	Short wave radio
Very High frequency	<i>VHF</i>	30 MHz - 300 MHz	10 m - 1m	FM radio, Broadcast TV
Ultra High Frequency	<i>UHF</i>	300 MHz - 3 GHz	1 m -100 mm	Broadcast TV, Mobile and cordless phone, WiFi, WiMax, Satellite radio
Super High Frequency	<i>SHF</i>	3 GHz - 30 Ghz	100 mm - 10 mm	Fixed microvawe links, WiFi, Satellite TV, Wireless fiber
Extremely High Frequency	<i>EHF</i>	30 GHz - 300 GHz	10 mm - 1 mm	Short-range wireless data links, Remote sensing

Table 1 Radio frequency of Spectrum: different ranges; Source: different sources

The radio spectrum refers to frequencies that vary between 3kHz and 3000GHz (ITU, 2012). Table 1 shows a classification of different radio spectrum bands with its different characteristics and possible uses.

Across the radio spectrum, propagation properties vary and this means different bands are better suited to different uses (Cave & Webb, 2015): some parts of the spectrum are good for some purposes; other parts are technically preferable for other purposes. A complete evaluation of all these features help identifying the spectrum bands suitable for different applications. Other characteristics must also be taken into consideration like the resistance to adverse weather conditions and the building penetration capacity. For example, broadband services require spectrum with good propagation features and this is why they use the lower parts of the radio spectrum. The short frequency and the wide wavelengths give to these frequency bands the capability to pass through obstacles, such as buildings, and this is very important for services such as radio and mobile broadcasting (EC, 2010).

2.2 Why Does the Radio Spectrum Need to Be Managed?

The radio spectrum is used for a vast number of purposes. However, new uses and users are continuously emerging (Whiters, 1999). In the beginning, the radio spectrum was mostly used for specific applications in defense, security, aeronautics and physics fields. Demand for spectrum use was very small compared to the width of the radio frequencies. With the development of applications such as television broadcasting, mobile telephony and the Internet, spectrum management has assumed an increasing value and a primary role in these “everyday-applications”. Nowadays, demand for spectrum usage exceeds spectrum availability and there is a need of fast-paced processes of allocation and also re-allocation of spectrum bands. One of the most remarkable problems is that low frequencies are mainly occupied by older, less efficient technologies while the most recent, improved technologies have to use higher frequencies with limited propagation capacity and higher roll-out costs (EC, 2005).

To better understand the functioning of the radio spectrum, it is necessary to evaluate also the problem of interference that can be generated during its use and the possible consequences that may occur for users. The phenomenon of interference takes place when the transmissions of signal of sufficiently high power by multiple users, at the same time and by using the same or sufficiently close frequency bands, leads to distortion that can inhibit or entirely block communications (Prasad & Sridar, 2014).

Nowadays the growing number of spectrum applications and the increasing demand of spectrum required by the new technologies, due to the large-scale diffusion of the Internet and mobile phones, has transformed the spectrum management in a core issue from different points of view. Policymakers face the problem of managing access and allocation of spectrum bands, companies charged as service providers have to manage the request of spectrum by the users to avoid interference and bandwidth overload, and technologists invest in R&D to discover new way to maximize spectrum use (Cave & Webb, 2015). All these issues constitute a very complex framework where the final goal is to deliver the maximum social and economic benefits to the users. The utmost importance and complexity of the spectrum management issue is also emphasized by the intricacy of the

legislative framework and the difficulty of implementing new decisions both from an economic and temporal point of view.

Due to these complex situation, some authors (see for example (Whiters, 1999) (Prasad & Sridar, 2014) (Cave & Webb, 2015)) define the radio spectrum as a scarce resource, but this peculiarity is not an own characteristic of spectrum: scarcity is due to the necessity to manage the spectrum in specific ways to limit the risk of harmful interference combined with the technological limits of the applications used. There are two ways to increase spectrum usage (Cave & Webb, 2015): at first, it is possible to bring into use bands not used before; second, the use of spectrum can be made more efficient by developing more advanced techniques and technologies. With regard to the first point, the problem is that, relying on the first method is not bearable in the long term, because the growing numbers of frequencies causes a diminution of propagation capacity and consequently, the lack of available spectrum for new applications. This is why the second point is very important, indeed invest in innovation and new technologies that exploit the spectrum availability in a more efficient way, will be the challenge for all the producers interested in this sector. Through a process of standardization, producers have to recognize specific technologies that will provide a certain category of service to the consumers, enabling economies of scale, interoperability and ease of roaming.

At the same time, regulatory bodies have to respond dynamically to the new conditions of an ever-changing environment. Inefficiencies in distribution and use of the spectrum create costs, lead to wasted opportunities for business and society and prevent the deployment of innovative technologies and services (EC, 2010). The goal is to actively find the right balance between technological progress and management of demand of existing and new service together, in an extremely dynamic environment.

Radio spectrum management can be divided into two major activities, that require different skills and a very deep knowledge of the entire environment, since they take place in a constantly evolving market, strongly influenced by the development of new technologies. These two activities are allocation and assignment of radio spectrum. The allocation process involves a set of decisions taken by regulatory bodies to associate a frequency band to one or more specific uses; this decision takes place at international level. The assignment process is the second important part of spectrum management activities, which takes place

at national level, when a company or an organization, receives from a national authority the permission, often through an exclusive license, to use a specific frequency band on its territory. The exclusivity of the license allows the organization to invest in the infrastructure and R&D necessary to provide its service, without the threat of interference.

2.3 Spectrum Allocation and Assignment: A Multi-layered Process

Radio waves do not follow geographical or political boundaries when they propagate and this feature generates a need for spectrum coordination. Coordination is needed to avoid interference and allow everyone to use the spectrum. In addition, coordination is also beneficial for facilitating roaming and interoperability and reducing costs related to telecommunication equipment on a global level, allowing manufacturing companies to take advantage of economies of scale.

Spectrum coordination is guaranteed thanks to a complex, and sometimes overlapping, three-level regulatory structure which involves international, regional and national bodies. It is useful to better explain how the coordination process occurs in every level of this framework: Table 2 below, describes briefly the structure that will be explained in this section.

Regulatory Context	Radio Spectrum Activity		Entity
International	Allocation	Designating frequency bands to radio-based services	ITU
Regional	Allocation	Formulating common proposals to review radio spectrum allocations	CEPT; ATU; ASMG; RCC; CITE; APT
National	Assignment	Granting service providers authorisations for using the frequency bands	NRAs

Table 2 Radio spectrum: three-level regulatory context; Source: (Massaro, 2017)

The organization that manages the radio spectrum at global level is the International Telecommunications Union (ITU), a United Nations specialized agency. Its main duty is to manage the process of allocating radio frequencies to specific services or applications. The World Radiocommunication Conference (WRC), organized by the ITU every three to four years, offers all ITU member states the opportunity to discuss, review, and, if necessary, revise the so-called Radio Regulations (RR), the international treaty governing the use of the radio-frequency spectrum (ITU, 2017). The ITU's RR have binding effects on the ITU

member countries. Each frequency band, with its attached services, are registered in the Table of Frequency Allocations (TFA) to avoid harmful interference for the neighbouring countries.

The harmonization process is the allocation of a frequency band for a service or set of services, at a global or regional level (Davies, 2015). This is the best way to achieve a cross-country homogeneous use of the spectrum. However, this is not an easy task because of the many political, social and technological differences of the 192 ITU's member countries.

To facilitate harmonization, ITU has divided its member states into 3 different geographical regions called Region 1, Region 2 and Region 3 as its shown in the Figure 6. Europe, Africa, the Middle East and northern part of Asia are included in Region 1; the North and South America plus some of the eastern pacific islands constitute Region 2 and the southern part of Asia and Oceania are comprised in Region 3.

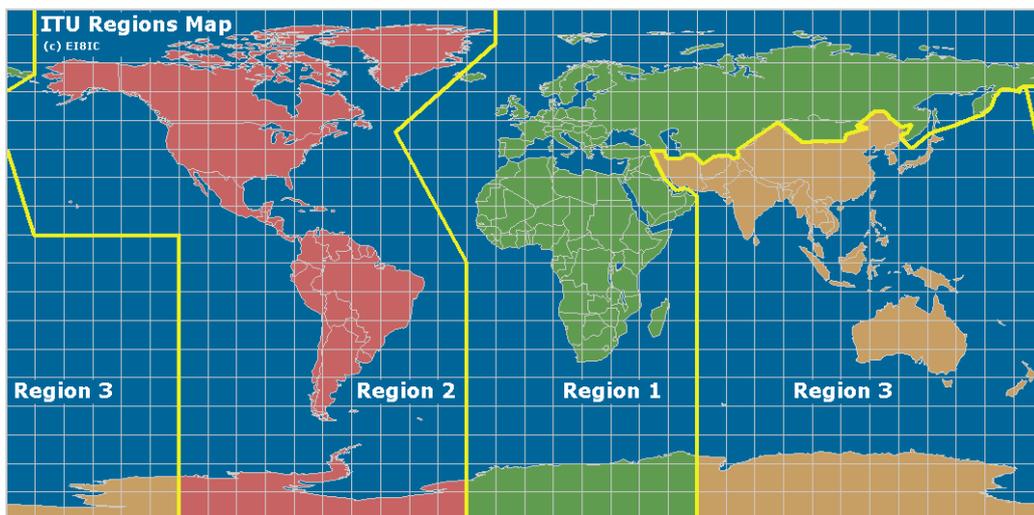


Figure 6 ITU's regional division, Source: <http://www.mapability.com/ei8ic/maps/regions.php>

Countries belonging to the same ITU Region have established regional organizations with the aim of strengthening cross-country collaborations. In particular, countries in Region 1 are organized in four regional entities: the European Conference of Postal and Telecommunications Administrations (CEPT), the African Telecommunications Union (ATU), the Arab Spectrum Management Group (ASMG), and the Regional Commonwealth in the Field of Communications (RCC); all the countries of Region 2 are members of the Inter-American Telecommunications Commission (CITEL) and in the same way, all countries of Region 3 are Asia-Pacific Telecommunity (APT) members (Massaro, 2017). The

principal task of these regional organizations is to build consensus among countries on common policy objectives and associated priorities with regard to spectrum harmonization (Massaro, 2017). The CEPT is the main European organization, which brings together almost the entire geographical area of Europe with its 48 country members. Other European bodies play an important role in this process of defining regional approaches to radio spectrum policy (ECC & ETSI, 2011). For instance, the Electronic Communications Committee (ECC) of the CEPT conducts detailed spectrum planning, developing common policies and regulations in electronic communications and related applications for Europe. In addition, the European Telecommunications Standard Institute (ETSI) deals with telecommunication standardization activities, producing global standards for ICTs, including fixed, mobile, radio, converged, broadcast and Internet technologies.

The EC is the major EU institution concerned with the promotion of harmonized radio spectrum across the EU. The EC claims that the regulatory framework for the radio spectrum currently in place in the EU, slows down the creation of the EU DSM (Massaro, 2017). Indeed, the coordinated availability of radio spectrum across EU member states, which is necessary for the development of trans-European networks and the provision of pan-European services, has not yet been reached (Massaro, 2017). The position of the EU, especially the role of the EC, will be better analysed in the next section (See section 2.4) because this topic will be central in the analysis developed in the following chapters.

The last level of this regulatory system is the national one, because this still plays the most important role in managing the radio spectrum. The National Regulatory Authorities (NRA) manage the radio spectrum access on a national level. NRAs are in charge of creating a national frequency allocation tables, taking in consideration the international and regional allocation agreements, defining for each frequency band the type of user and their respective rights and obligations. In addition, the rights to grant licenses and to discipline those who do not respect laws relating to spectrum use, are held by national governments (Cave & Webb, 2015).

NRAs can be part of a government ministry or an independent body and, in some countries, government ministry and NRA share responsibility on spectrum management.

NRAs are primarily responsible for the assignment of authorisations to service providers to use a specific band for its purposes. At international level authorities allocate several

services in each frequency band, so NRAs have the possibility to decide which is the best service to deploy in a certain band, with the possibility to take care of national needs.

Spectrum regulators' main objective is the achievement of efficiency from different points of view. Firstly, from a technical perspective, NRAs want to promote the development of new technologies that might improve the use of spectrum in terms of occupancy and data rate; secondly, from an economic point of view, the distribution of the spectrum should create the maximum overall benefits to society and thirdly, closely linked to the previous two, the social matter. Indeed, there is the necessity to provide some public services to all the population (Cave & Webb, 2015).

2.4 Radio Spectrum Management in the EU

Over the past 15 years, the EU has taken an increasingly active role in radio spectrum policy, with particular concern for the effect that radio spectrum uses and management has on the internal market and the digital economy (Davies, 2015). The overall goal of EU Radio spectrum management is to enable EU consumers to benefit from provision of high quality and innovative services based on radio spectrum, and at the same time, renew the regulatory framework to put companies and service providers, in the best conditions to work. As already said in the previous section, the EC is the main EU institution involved in the regulation of the radio spectrum. The so-called Radio Spectrum Policy (RSP) provide the legal basis for the EC, to adopt decisions on harmonised conditions for use of spectrum frequencies in the DSM. In carrying out its work, the EC is often supported by advisory bodies for the organization of public consultation processes and the collection of expert knowledge from interest groups. In RSP area, the EC is supported by the Radio Spectrum Committee (RSC) and the Radio Spectrum Policy Group (RSPG).

The RSC helps the EC with technical implementing measures and also develops measures to ensure that information on the use of radio spectrum is provided accurately and in a timely manner to all the stakeholders. The RSC was created in 2002 and it is composed of Member State representatives and chaired by the EC.

The RSPG, was established under Commission Decision (2002/622/EC)⁴ in 2002 and its main tasks were related to assist and advise the EC at strategic level, producing opinions, position papers and reports on radio spectrum policy issues for the establishment and the functioning of the internal market, as it's possible to read in the art.4 of the cited Commission Decision : *“The Group should contribute to the development of a radio spectrum policy in the Community that takes into account not only technical parameters but also economic, political, cultural, strategic, health and social considerations, as well as the various potentially conflicting needs of radio spectrum users with a view to ensuring that a fair, non-discriminatory and proportionate balance is achieved.”*

The RSPG membership is composed by representatives from the EU Member States and an official representative of the EC. Every two years a chairperson is elected among the members. During the plenary meetings also other host participants are invited as observers, such as representatives of the European Economic Area (EEA) countries, CEPT or ETSI.

During the years, the RSPG's remit has grown with the adoption of the Commission Decision (2009/978/EU)⁵ , amending the previous 2002/622/EC. With this new decision, the RSPG gained more powers and can now also be requested by the European Parliament and/or the Council, in addition to the Commission, to issue an opinion or produce a report on specific radio spectrum policy issues.

Today, the tasks of the RSPG are listed in the art.2 of the 2009/978/EU: *“The Group shall assist and advise the Commission on radio spectrum policy issues, on coordination of policy approaches, on the preparation of multiannual radio spectrum policy programmes and, where appropriate, on harmonised conditions with regard to the availability and efficient use of radio spectrum necessary for the establishment and functioning of the internal market. Furthermore, the Group shall assist the Commission in proposing common policy objectives to the European Parliament and the Council, when necessary for ensuring the effective coordination of the interest of the European Union in international organisations competent in radio spectrum matters.”*

As part of its advisory function, RSPG organizes public consultations, under request of the EC or on its own initiative, with the objective of involving all relevant stakeholders, radio spectrum users, both commercial and non-commercial, as well as any other interested

⁴ Document available at <http://eurlex.europa.eu/legalcontent/EN/TXT/PDF/?uri=CELEX:32002D0622&from=BG>

⁵ Document available at <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009D0978&from=EN>

party. The principal aim of this procedure is to consult extensively and in a forward-looking manner on a variety of technological, market and regulatory developments relating to the use of radio spectrum in the context of relevant EU policies such as electronic communications and the information society, as well as other sectors and activities such as transport, research and development, or health. After consultation procedures, the RSPG prepares final reports to be delivered to the EC that receives in this way, a complete description of the framework of the policy issue, giving the possibility to all the stakeholders to provide helpful information to initiate the decision-making process.

In the next section a brief summary of the main steps of this procedure is presented. This description is very useful to understand the analysis performed in chapter 5 of this master thesis work, because RSPG's consultations are used as primary sources of data.

2.4.1 The RSPG's Public Consultation Process

The EC recognizes the benefits of being open to outside input and, as the "theory of access" (Bouwen, 2002) pointed out, the relationships between the outside interest representatives and the EC is based on information exchanges.

The public consultation process is one of the system that the EC uses to gather expert information and as Greenwood pointed out is probably one of the more democratic (Greenwood, 2017), indeed everyone can answer to the call of the institution to express its own opinion to the policy issue taken in consideration. In the case of radio spectrum policy, public consultations are often carried out by the RSPG, the high-level advisory body of the EC. In particular, the consultation process held by the RSPG follows three main steps:

- *Call for comments:* in the first step of the process the RSPG prepare a summary draft where explain the topic and the regulatory issue taken in consideration and declare its starting position about the possible measures to be implemented. Then RSPG openly asks to all the possible actors interested to answer and express their point of view about the topic. Usually, to have a better organization of the answers and to discourage off-topic replies, RSPG identifies and underlines some core points of particular interest and asks to respondents to express their concerns, thoughts and any improvements to be addressed;

- *Answer collection*: the second step of public consultation process, usually lasts two to three months, during which RSPG receives all the answers from the different actors. The major part of these answers is very technical and full of detailed information, and provide the so-called in the Bouwen's theory (see section 3.5), Expert Knowledge;
- *Final Report*: in the final step, RSPG analyses and reads all the stakeholders' replies and evaluate possible changes to be made and potential issues not yet taken in account. In the end, RSPG compose an official final report to be delivered to the EC. This report in a very detailed text that analyse the matter from different perspective. taken in consideration all the possible interests and providing a perfect starting point of inestimable value in the policy-making process.

It is easy to understand that in the radio spectrum policy area, the RSPG plays a core role acting as a catalyst between the different actors who want to exert pressure on the EC and the Commission itself, that seeks for expert knowledge and technical advice.

2.5 Final Considerations

To sum up, this chapter wanted to present the radio spectrum from different perspectives to give the reader all the possible tools to understand the importance of this matter in the development of the EU DSM project. At first, spectrum was described from a technical point of view, presenting its main characteristics and technical issues. Then, the importance of managing the spectrum resource has been highlighted, as well as, certain problems. In particular, the allocation process presents many difficulties due to the large number of actors involved and the amount of different interests that regulatory bodies have to consider. The international and regional institutions try to set out a common harmonized framework, but the differences between national administrations can be an obstacle to the achievement of the goal. Traditional allocation processes are based on a weighing of both public and private needs for frequencies, considering carefully technical rules and engineering aspects of radio spectrum usage.

In the last part of the chapter the focus of the thesis shifted towards the role of the EC and its advisory bodies in the regulatory process, in particular, referring to the RSPG's role in conducting public consultations.

The framework outlined in these previous sections represents the background in which the lobbying phenomenon is analyzed.

Chapter 3

THE LOBBYING PHENOMENON

The purpose of this third chapter is to describe to the reader the lobbying phenomenon, showing how lobbying activities are embedded in the EU context described in the first chapter. Lobbying is a term used to indicate various activities performed by organizations or groups, so-called lobby or interest groups, tied together by the common will to exert pressure on policy-making processes to promote their interests (Coen & Richardson, *Lobbying in the European Union: Institutions, actors and issues*, 2009). The lobbying practice can be carried out on several levels – local, national, regional or global - wherever there is a policy system to influence.

It is important to underline that in this master thesis work, the word ‘lobbying’ will be used in a ‘neutral way’, without any kind of negative or positive meaning. The concept of lobbying has been widely accepted in the EU, as a label for legitimate democratic activity in which the interest groups try to influence the political decision-making process (Greenwood, 2017). The most common error is to mix up and associate lobbying with corruption or bribing acts (Spiller & Liao, 2006).

In the last two decades, lobbying in the EU has been more and more studied by scholars. Nevertheless, there are many unexplored areas, as well as concepts that have not been fully understood, because of the high complexity of the EU’s multi-layered structure. This chapter therefore has the objective of presenting to the reader a satisfying literature review, considered necessary to understand the topic and appreciates the qualitative analysis of the data carried out, which is included in the last chapter of this thesis work.

The chapter is organized as follow: in the first part, composed by three sections (Sections 3.1, 3.2, 3.3), the main characteristics of the lobbying phenomenon in the EU are presented. A clear definition, together with a description of the main general features, is outlined through a literature review.

The second part, composed by the last two sections (Sections 3.4, 3.5), will go more in details in two important topics related to the lobbying phenomenon, that are core for the analysis developed in the last chapter of this master thesis work. At first, there will be a deepening

on the transparency issue, that is at the centre of the debate when it comes to lobbying phenomenon and second, the Bouwen's "theory of access" will be explained, since this will be the starting point of all the analysis.

3.1 Lobbying in the EU

The EU lobbying landscape is incredibly fragmented and complex, because of two main reasons: first, there is a multi-layered and sometimes overlapping scenarios, from national to international level. Secondly, interest groups activities can cover all sectors of economic and social issues. The combination of these two variables can create a great amount of opportunities for lobbying groups.

All lobbyists generally develop strategies to influence the EU decision-making process. Nevertheless, lobby groups representing European interests are generally more successful in having their viewpoint seriously considered compared to lobby groups supporting national interests (EP, 2003). The strive for understanding the EU machinery frequently makes a big difference between successful and inefficient participants in the lobbying theatre. Hence, interest groups form alliances in order to give the issue a genuine European dimension.

In this context, there are several different actors who want to participate, such as incumbent companies, associations, non-governmental organizations (NGOs), consultancy firms and affairs consultants or other lobbying professionals. The principal aim of all these players involved is to maintain a favourable regulatory environment for their organizations, members or clients (Coen & Richardson, 2009).

Interest groups can have different approaches in the lobbying activities. These differences often stem from factors such as geographical origin, type or organizational size and situational aspects, as time. They may have particular preferences, different ways to gather information, resources, forms of management, or lobbying styles.

It is possible to distinguish four main types of activities performed by lobbyists and pressure groups (EP, 2003):

- *service functions*, to provide their members, with specific and often exclusive services or information;

- *lobbying functions*, to try to influence decision-making processes from outside, for example by meeting MEPs or Commission officials, or participating in public hearings;
- *decision-making functions*, to try to influence decisions from within, for example by direct participation in the decision-making process of expert committees selecting research project proposals;
- *implementation functions*, the direct participation in policy implementation, by taking over management functions in programme implementation.

The first two tasks mainly serve the organisations' membership or clients, helping them to 'gain power' in the policy environment, whereas the latter two contribute to public policy-making and the governance of a specific policy sector, providing the institutions with more useful resources to better legislate.

In describing lobby activities, it is possible to use the metaphor of the political market: just as the interplay of supply and demand generate the equilibrium price, it is possible to define the equilibrium level of influence as a result of the exchange of supply and demand of information and other goods between lobbyists, on the one hand, and officials and politicians, on the other. The immediate parallel of price formation in the commercial market would hence be the formation of consensus in the EU political market. Starting from this metaphor, Pieter Bouwen elaborated the so-called 'theory of access' (Bouwen, 2002), that, still today, represents one of the core theories for anyone who wants to study the phenomenon of lobbying in the EU. Before analysing Bouwen's theory of access, the practice of lobbying will be described, as well as its main objectives, strategies and techniques.

3.2 Analyzing lobbying practice

The phenomenon of lobbying is proliferating in the EU landscape due to two principal factors (EP, 2003): firstly, a structural factor, because the complex EU's institutional framework present a lot of possible access points through which to lobby the EU bodies. This can be viewed as both an advantage and a disadvantage, for everyone who wants to participate in the complex lobbying process, made by links between the different bodies, external linkages with EU member states and companies (Coen & Richardson, 2009). The

possible problem that could arise for interest groups, in such a differentiated institutional setting, could be an overload of actors who want to exert pressure over the institutions (EP, 2003). However, the mere plurality of actors and the complexity of the decision-making process cannot be a serious obstacle for private interest groups as well. However, it can become a problem for the institutions that seek quality and not quantity, when policy-makers decide to look for competent and useful information from external sources (Greenwood, 2002). The possibility of giving all possible interested parties the opportunity to express their opinion, and contribute to the policy-making process, is therefore a double-edged sword: on the one hand, it represents a form of democracy and demonstrates the will of the EU institutions to be open to private opinions, on the other hand, there is a risk of congesting the process with no actual benefit to the institutions, if an increase in the number of participants doesn't translate in the increase of the quality of technical contributions.

The second factor is a political factor, indeed as Guéguen pointed out, in the last two decades Brussels has turned into the most important center of decision-making power and the major part of the national legislation today derives from decision taken at EU level (Guéguen, 2002).

Given its increasing importance, many scholars have begun to address the phenomenon of lobbying, trying to classify some recurrent behaviours or practices emerging from empirical investigations.

Lobbying started to be investigated in the United States (US), where this phenomenon has been under the spotlight of the public opinion for a long time. However, US lobbying presents important differences with respect to EU lobbying. As described by Woll, the difference between the US and the EU is based on a range of institutional mechanisms, which derives from different political systems (Woll, 2012). The US is a fully established federal system, where lobbying activities are more aggressive and the legal system is dominated by lawyers and judges. It is built around majority decision-making, based on 'winner-takes-all-politics'. By contrast, the EU system, that has a more heterogeneous nature, is based on a complex intergovernmental system with a high degree of supranational centralization where the 'consensus-building' is the main goal of the actors of this system. The access of private actors to supranational institutions depends on a

complex system of bargains and agreement between the parties to create a better policy proposal (Woll, 2012). EU scholars and academics started to take in consideration the lobbying phenomenon with major interest between the end of the 90s and the begin of new millennium, more than 20 years ago. The first studies were descriptive and tried to analyse and describe the activities that are commonly employed in a given institutional environment.

Despite the systematic differences, some studies on lobbying activities in the US can be used as starting points to analyse the EU phenomenon. For example, Berry, suggested more than 40 years ago, in a study of lobbying public interest groups in the US, a classification of tactics and activities of lobbying, that can have some interesting common points with the EU scenario (Berry, 1977). He recognized three broad categories:

- techniques that are characterized by direct communication between lobbyists and governmental officials;
- methods by which groups lobby through their constituents;
- groups may try to change governmental policy by influencing elections or altering public opinion.

Guéguen, revised and developed its own classification of lobbying strategies, applied to the EU institutional system, as follows (Guéguen, 2002):

- negative strategies consisting of a face-on opposition to legislative proposals drafted by the Commission, or by proposing untenable counter-proposals;
- reactive strategies in which prudence prevails over action and initiatives: monitoring, meetings and a small amount of public relations;
- pro-active strategies consisting of working constructively with the Commission in a spirit of partnership and credibility.

Continuing on this wave of studies also Coen identified the four main strategic capacities that are indispensable for effective lobbying (Coen, 2002):

- the ability to identify clear and focused policy goals;
- develop relationships and credibility in the policy process;
- understand the nature of the policy process and institutional access;

- look for natural allies and alliances to develop profile and access.

It is easy to understand that Brussels is becoming a very competitive environment, where the good knowledge of the decision-making process, and the lobbying strategies that a player wants to act, play a key role.

The “game of triple P” is a model developed by Van Schendelen, that tries to explain how a participant in a lobbying process wants to make the level playing field more ‘unlevelled’ (EP, 2003) and take advantage over the other participants. The “triple P” referred to the will of the participants to place the friendliest *person* in the best *positions* in the most beneficial *procedures* (Van Schendelen, 2002). This game describes in few words, how pressure groups work in reality, and everyone who wants to deal with this matter has to quickly learn.

To sum up, according to all the works mentioned above and a lot of literature on this topic (e.g. (Mazey & Richardson, 1993); (De Fouloy, 2001); (McGrath, 2002)) it is possible to define several core factors of successful lobbying: access to information, personal contacts, forming of coalitions and timing.

First, the making of a wide information network within the EU institutions and other bodies that participate in the EU decision-making process is often pointed out as the first step in the establishment of the lobbying influence in the EU. This activity can give lobbyists access to vital information, but it is also important to be as transparent as possible to avoid any possible kind of problem or accusation.

The theme of transparency is indeed one of the main points of debate in the discussion on the phenomenon of lobbying, the relationships between lobbyists and the institutions must be clear and fair. The growth of lobbying and the greater sensitivity to the public image of the EU institutions, have led to stricter regulation of lobbying activities. As it will be possible to see in depth in section 3.4, the basic purpose of regulation is to make lobbying more transparent and outlaw anything which might be constructed as bribing or illegal.

The second factor is personal contacts, directly connected with access to information. Effective networking system and numerous contacts ensure more chances of implementing a successful lobbying strategy. In relation to that, some studies focus on the importance of “who you know” rather than “what you know”, (Hermansonn, 2016) but it is also easy to

understand that only participants with a thorough preparation on the examined issue deserves the attention of the institutions and their representatives.

Third, lobby groups have to decide if act on their own or join other groups to act together: this decision will be taken by the lobbyists, depending on their characteristics and strategy. Often actors organize business association to take some advantages in terms of obtaining more information, reducing lobbying cost and sharing knowledge (Guéguen, 2002). On the other hand, other groups can prefer to act on their own to enjoy the results of their lobbying activities alone (EP, 2003).

In the end, regardless of the methods that are being applied, the timing is undoubtedly the most important factor that characterize a lobbying strategy (McGrath, 2002): it is essential to understand the legislative process and key points where it is possible to exert pressure at the right time in the decision-making process. Effective lobbying translates into giving the right information to the right person at the right time.

3.3 Interest Representation in the EU

The debate about the role of interest groups in the policy-making process comes into special emphasis when applied to the EU institutions, because of a systematic dependence upon interest representation. According with Greenwood (Greenwood, 2007), the EU has a reliance upon interest groups as proxies of “civil society”. This term identifies every type of interests outside of political institutions and thus “organized civil society” denotes organizations embracing interests from business companies to citizens (Greenwood, 2007). It is possible to make several different classifications of the interest groups involved in the lobbying activities.

Much of the literature (e.g. (Young & H., 2000)) builds the categories distinguishing between different kind of interests that groups pursue. In general, the most diffused division is between lobby groups that pursue public and private interests. Some examples of public interests’ matters are: improved consumer protection, lower taxes, environmental protection and humans rights defence. Typically, this kind of issue are represented by NGOs or think tanks.

Public interests seek benefits serving the society as a whole, taking care of issues that involve more directly European citizens, quite the opposite, private interests refer to all those activities carried out to achieve private goals for the benefit of the members of the groups itself, which typically are companies or business associations (EP, 2003).

It is important underline that this dichotomy between public and private interests, often carries the wrong implication that public interest groups always represent what is best for the society and, on the contrary, private interest groups are only interested in selfish goals. The potential satisfaction of their needs by EU political institutions from their exchanges with interest groups is diverse, but the shared final goal is to create an effective system of checks and balances which contributes to democratic representation of all the possible stakeholders involved (EP, 2003).

3.3.1 Public Interests

Public interest representation is important for the EU institutions for the contribution that it gives in consolidating the collective viewpoint and gather the needs of the citizens to enhance legitimacy and consensus (Greenwood, 2017).

Lobbying in the EU aims at building consensus, and this is why EU institutions are open for a dialogue with a wide public. Indeed, as Greenwood points out, the overwhelming majority of the legislative proposal by the EC, around the 80%, end up as law (Greenwood, 2007). EU institutions works preliminary with the civil society to understand the needs of all actors and then begin the policy-making process, receiving information about the likely chances of success of a legislative proposal and helping to protect institutions' reputation (Greenwood, 2017).

Some scholars view this process as a sort of double-faced lobbying, because institutions accept the help of civil society, but, at the same time, use interest groups to exert pressure upon the positions of EU member states, seeking common solutions by ceding sovereignty towards the EU, and promoting the shifting of decision-making power in the hand of the EU institutions (Greenwood, 2007).

3.3.2 *Private Interests*

Private interests play a core role in the lobbying process because they are often object of regulatory measures. EU institutions are eager to hear private interests for two principal reasons: first, it is much easier to implement a policy developed with the help of the regulated party; second, institutions do not have the technical knowledge or expertise to develop a policy proposal on their own (Greenwood, 2017).

Most interest groups belong to this category because they are the best providers for essential information to enhance the policy-making process. The EU institutions have to legislate over a wide number of issues and different market sectors, and when a new policy issue is taken in consideration expert technical knowledge from companies is often searched for. On the other hand, private actors are interested in participating in this procedure to access to the decision-making process and make their needs and ideas count in the process. The growing importance of EU supranational mechanism of decision-making has shifted the attention of the private interest groups over the time, in the so-called 'Brussels route', creating a real competition between all the stakeholders that want to be involved in the process.

The broad thrust has been to create a pluralistic design of checks and balances, where anyone that want to participate is challenged by all the possible interested parties, and where interests are empowered through procedures to engage with the institutions and, at the same time, keep EU institutions accountable (Greenwood, 2017).

Interest groups representing companies are the main actors of this process and, over the years, there has been a creation of formalized channels for communication. However, it is quite difficult to avoid information asymmetries in this process. Every actor tries to use its own capabilities to take advantage over competitors in the policy process. These asymmetrical disadvantages constitute threats to democratic legitimacy. This is why transparency is a founding stone in this process and it is an important issue for the EU institutions (Greenwood, 2017).

The following sections of this master thesis work present two interesting topics on which the analysis in the next chapter is focused: at first, it is provided a detailed discussion on the 'transparency issue', which is taking more and more attention in the EU policy debate.

Second, an interesting analysis of the environment around private interests, based on Bouwen's theory of access, will be presented.

3.4 The Transparency Issue

The high degree of reliance of EU institutions upon civil society in the policy-making process has triggered a substantial expansion of the lobbying phenomenon in the EU. In particular, the complex relationship between lobby organizations and EU institutions has raised awareness about the importance of transparency in decision-making processes (Curtin & Meijer, 2006), (Greenwood & Dreger, 2013), (Greenwood, 2017).

Transparency is not only related to the right of every citizen to have access to information, but also to the duty of the institutions to provide information about policies and decisions in an accessible manner. Giving citizens the possibility of monitoring the policy-making process, consulting documents and results, will enhance the legitimacy of institutions conduct (Curtin & Meijer, 2006). This generates some reflections on democratic mechanism and equality of access to the decision-making process. The topic of transparency acquires more importance because it is the first condition required by all actors involved in this process, and even to the public opinion eyes, it appears like a good starting point to avoid all the possible conjectures or critiques about corruption or bribing issues. As Greenwood pointed out (Greenwood, 2011), the core importance of the transparency issue in the policymaking process lies in the own structure of the EU system: if the EU institutions are dependent upon exchanges with civil society for democratic legitimacy, at the same time civil society must be well informed of all exchanges that take place in the EU system. However, actors do not tend to be voluntarily transparent when it comes to reporting their attempts to influence policy-makers' decisions (Dellis & Sondermann, 2017) because being transparent when it comes to their lobbying activities may require to show strategic aspects that they do not want to share with competitors.

Over the least last ten years there has been a great improvement on the quality of lobbying regulation to ensure transparency. In 2006, the European Transparency Initiative (ETI), was launched by the EC (EC, 2006) with the aim to strengthen the concept of lobbying as a legitimate part of the democratic system. The main goal of the ETI was to make clear to the

public which inputs lobby groups provided to the EU institutions, who they represented, what was their mission and how, and from whom, they were funded. The most important initiative started from the EC regarding this issue, as it will be better explained in section 3.4.3., has been the creation of the Transparency Register (TR), founded in 2011: a web-based voluntary registration system for all lobbyists who want to interact with EU institution.

The lobby regulation field can cover a variety of issues, ranging from limited aims avoiding corrupt practice, through to contributing to more complex rules of access to political institutions, and exchanges between them and outside organizations aimed at ensuring better democratic outcomes (Greenwood, 2017).

It is possible to identify two main different regulatory focuses: the first one is the behaviours of the EU institutions, in particular of their members; the second is the behaviours of lobbyists.

3.4.1 Regulating the EU institutions' staff members

There are a variety of general principles to be followed by those work in the EU institutions. The stringency of these principles gives an idea of how delicate the subject is: for example, some of the prohibited activities include: taking or seeking instructions from anyone outside of their institutions; participating in circumstances which give rise to a conflict of interests; the acceptance of favours, payments, honours or any type of personal gift; the disclosure of private information or engaging in outside activities without permission. In general, EU institutions staff members must not act in a way that could compromise their positions. Moreover, they are obliged to report any suspected illegal activity, such as fraud or corruption and they are required to publish meetings held with lobbyists on their websites, and to refrain from meetings with any lobbyists not registered in the TR. (Greenwood, 2017)

3.4.2 Regulating EU lobbyists

The importance of regulating lobbying activities presents complexities due to many aspects to take in consideration. In general, to participate in regulatory process the institutions have realized some schemes, based on a system of incentives.

The basic purpose of this regulation, is to create a code of conduct to ensure that lobbying activities are carried out in an open and transparent way. In the EU, there are two main principles that are at the basis of the code of conduct of lobbyists: self-regulation and accreditation scheme (Greenwood, 2017).

Self-regulation refers to the capacity of the actors involved in the lobbying process to disapprove and judge unreliable whoever does not accept the code of conduct rules.

The self-regulation process constitutes a self-exclusion method for those who do not want to accept the code of conduct and sign in the register and, at the same time, to reward those who adhere. The criticism of this method is, however, that there are not real sanctions for who does not follow the code of conduct (Kanol, 2012).

To strengthen the power of the regulation, EU institutions create a scheme of incentives, linked with an accreditation and registration system, for lobbyists that allows them to access more easily to the political process.

3.4.3 The Transparency Register

In the EU, the first try of regulation was introduced by the EP in 1996, creating an incentive-based regulatory scheme that established that those who signed the code of conduct received in exchange, a one-year permit to access to the EP.

Even the EC, in 2008 starts its own register, called Register of Interest Representatives (ROIR), with similar characteristics with the EP's one and in 2011 this two schemes merged to create the so-called Transparency Register (TR).

The code of conduct is continuously updating and institutions try to incentivize more and more the registration. Joining the register carries the obligation to accept the code of conduct, but gives to the lobbyists lots of advantages in terms of access to the policymaking process.

With regard to the EP, registration is a pre-requirement for the lobbyists to participate and speak in public hearing and organizations which are summoned to appear at a committee hearing lose their passes if they do not comply. Regarding the EC, instead, the main incentive to join the register was given in 2014 (EC, 2014), when it has been decided that in order to have a meeting with a Commissioners and their Cabinet or a Director-General, registration was mandatory. Moreover, registration it is a pre-requisite for memberships in EC's expert advisory groups and another incentive involves the possibility of receive early consultation alerts for selected interest areas (Greenwood, 2017).

Due to all the advantages that implies for lobbying organizations, the register has become de facto mandatory and represents for the institutions a useful tool to promote transparency. There is an ongoing debate on the possibility to transform the TR in mandatory (EC, 2016) for every actor that want to participate in every level of the decision-making process, abandoning the voluntary nature of the registration that is based on the self-regulation concept, to promote a more rigid obligation to ensure positive effect on political equality and transparency (Kanol, 2012).

In the present scheme, the TR is an online register which aims at gathering information disclosed by all types of organizations who seek to influence EU public policy. Organizations provide information about their activities such as organizational contact, interest categorization, interested area and mission, spending on lobbying, number of employed involved in lobbying activities and many more.

All the procedure is done by the organizations themselves with an auto-classification process and has become also a good opportunity to advertise themselves to a broader audience using an EU institutional platform (Greenwood, 2017).

The TR has known, from his birth, a huge growth, as it is possible to see in the Figure 7; nowadays it counts around 12000 registrations, and the amount is still increasing (TR, 2017).

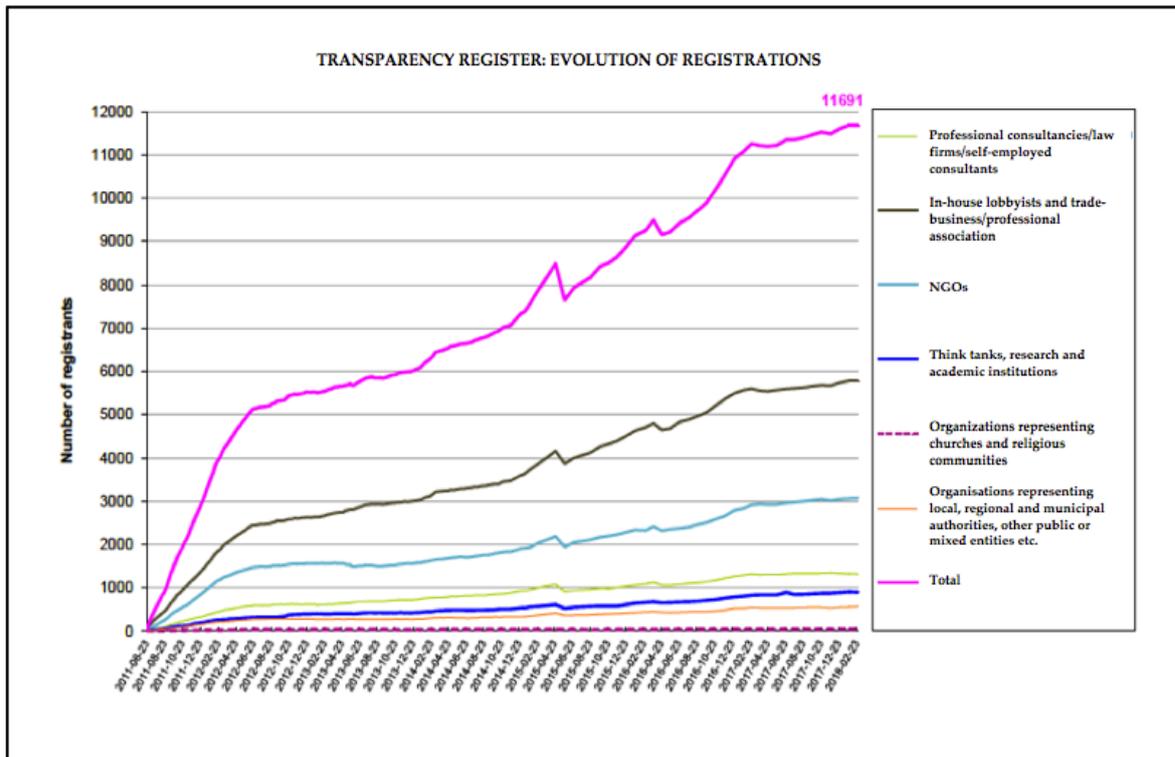


Figure 7 TR Registrations; Source: TR

The registration process has also some critical points, indeed at the begin of its existence the core challenge was to amplify the number of registrations. Nevertheless, now that the number of registrations is quite big and is still growing, the emphasis is shifted on the quality of the registrations rather than quantity (Greenwood & Dreger, 2013). In 2015, Transparency International, a NGO that collaborates with the EC, sent in a complaints list comprising around half of the entries of the register which it deemed implausible or missing key data (Greenwood, 2017). The main goal is to improve the quality and reliability of the data entries, to reinforce the role of the TR as an open-source of lobbyists data. Keeping in mind the fact that the lobbyists themselves enter data into the TR voluntarily, with an organized check system, errors and inaccuracies can be reduced; in this way, the TR could become a fundamental tool to promote the transparency and legitimacy of lobbying activities in the EU.

In the last chapter of this master thesis work, the TR data will be used to expand the analysis on the participants to RSPG consultation process, to try to improve the findings of the qualitative analysis. The TR database is a big source of information and will be used to enrich the outcomes of the empirical analysis on lobbying in radio spectrum policy area.

3.5 The Theory of Access

As already shown in the previous section, most of the studies on lobbying are classifications of activities or behaviours that pressure groups adopt to influence the decision-making process of the EU institutions.

Due to the complexity and diversity of the EU interest politics, it is difficult to find a reliable generalization that can explain the functioning of lobbying in the multitude of possible channels and targets that are available for interest groups. Nevertheless, studies have been conducted to understand the logic behind the lobbying phenomenon in the EU context. In this regard, Pieter Bouwen, (Bouwen, 2002) developed a theoretical framework in order to study the interaction between business interests and the main EU institutions: the EC, the EP and the Council. What differentiates this study from others, is the in-depth analysis of the relation between interest groups and EU institutions, as an exchange relation between two groups of interdependent organizations. Since measuring influence in an analytical or quantitative way is quite difficult, due to lack of information and the complexity of creating a quantitative measure for lobbying, an alternative approach is taken by Bouwen, focusing on the ways that permit business interests to access the EU institutions. Lobbying activity is not a unidirectional process where groups of interest compete to access the institutions, but it has to be seen more like a two-way process, because also EU institutions are eager to interact with the private sector in order to fulfil their institutional role.

The theory of access takes inspiration from the theory of demand and supply, which is adapted to the lobbying process. Interest groups want to provide the so-called 'access goods' to the institutions, that at the same time, seek for advices to better legislate. Bouwen emphasizes that when an actor manages to gain access to an institution, it is also important to know how to translate this advantage in concrete favorable outcomes (Bouwen, 2002). *'Access does not necessarily mean influence'*, but it is also true that access is a condition sine qua non to exert pressure in the legislative process. This is why studying access can be considered a proxy of influence.

3.5.1 The exchange theory and the definition of access-good

Bouwen's theory of access can be understood by linking it to exchange theory (Levine & White, 1961) and resource dependence perspective (Pfeffer & Salancik, 1978). According to these theories, it is possible to describe the interaction of private and public organizations as a series of interorganizational exchanges. Every organization involved in the process wants to decide which actors to interact with and to do so, it makes an implicit or explicit cost benefit analysis. When the interest in collaborating is reciprocal, it is possible to establish a durable exchange relation, where both sides receive benefits, even if not necessarily in equal part. As theorized in the resource dependence perspective, organizations are not internally self-sufficient and to fill this gap, they have to interact with who control the resource they need; the direct consequence is that organizations become interdependent with those organizations with which they interact.

EU institutions can become subject to pressure from organizations that, at the same time, compete with other participants to provide information to the institutions. This relation creates an interdependency between actors, where public actors demand for resources for their own functioning and private organisations want to provide these critical resources that Bouwen has named 'access good'.

Before delving into the details of the theory of access, it is important to give to the reader a general definition of 'access good'. Then, the different types of access goods that the public and private sectors mutually exchange are analysed. Bouwen defines access goods as "[...] goods provided by private actors to the EU institutions in order to gain access. Each access good concerns a specific kind of information that is important in the EU decision-making process. The criticality of an access good for the functioning of an EU institution determines the degree of access that the institution will grant to the private interest representatives" (Bouwen, 2002). The author, in his definition, emphasizes that the more the access good is crucial for the functioning of the EU policy-making, the more the provider of this goods will have access to the decision-making process.

Bouwen distinguishes between three type of access goods, depending on the type of information provided:

- *Expert Knowledge (EK)*: this access good concerns the need of political institutions to better understand the market. In this regard, they seek for expertise and technical know-how from the private sector. This kind of information is crucial to legislate in particular in high technical policy areas;
- *Information about the European Encompassing Interest (IEEI)*: this access good concerns the will of the institutions to understand the needs and interests of a specific sector in the European economic framework, the so-called European Encompassing Interests (EEI);
- *Information about the Domestic Encompassing Interest (IDEI)*: this access good is similar to the previous one, but it is focused on the needs and interests of the domestic market, representing more detailed information of a more narrowed arena.

It is important to clarify the concept of ‘encompassing interest’: encompassing means that there is an aggregation of individual interests or interest parties, that are gathered together in an organization such as trade associations, for example. The more the public authorities recognize the importance and legitimacy of the members, the more the ‘encompassingness’ of the organization will be influential in the decision-making process. All these types of information are crucial for the EU institutions to ‘close the gap’ with the market and enhance the quality of legislative process output. The core point of the theory of access is that EU institutions do not have sufficient level of technical expertise, because they are more politically centered.

Another important issue tightly connected with the access goods are legitimacy and compliance of this decision-making system. The ongoing process of transfer of political decision-making power from national to the EU level has entailed a vibrant discussion about the legitimacy of the EU regulatory system. In particular, it is possible to distinguish between input and output legitimacy (Scharpf, 1999). Input legitimacy is correlated with encompassing access goods and it concerns the involvement of the citizen and interest groups in the democratic EU decision-making. Output legitimacy is correlated with the ability in dealing with issues and problems of the EU legislative process and concerns the quality of Expert Knowledge provided by the participants of the lobbying process.

The compliance of this system is particularly referred to two types of access good: the IEEI and the IDEI. Indeed, the issue of compliance is correlated with the encompassingness of the access good provided, because the more the good is encompassing the more individual interests are aggregated in a unique interest group. In this way, it is more likely that larger and more encompassing interest groups can contribute to the EU legislation, because they represent a wider portion of civil interest.

3.5.2 Supply and Demand of access goods

As already mentioned, it is possible to explain the theory of access with an application of the supply-demand model. Figure 8 below represents the functioning of the model.

The dependent variable (Y_{An}) represents the access to an EU institution (n) by a private actor.

The supply of the access good (Y_s), and the demand for access good (Y_{Dn}) are independent variables. The private actors only gain access to an institution if the access good provided to an institution is also demanded by the same institution.

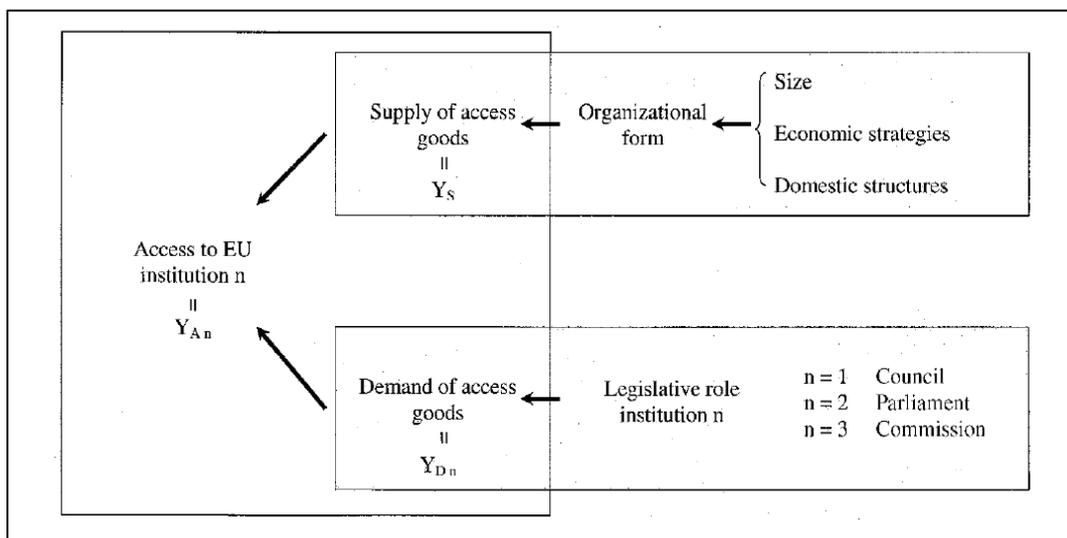


Figure 8 Supply and demand scheme; Source: (Bouwen, 2002)

To better understand the logic behind this 'trade', it is necessary to analyse in-depth the motivation behind the choices of both sides.

3.5.2.1 *The Supply-Side*

Bouwen studies lobby groups in two stages in order to identify their main characteristics:

- in the first stage, he studies the mechanisms that determine the organizational form of the interest group;
- in the second stage, he investigates the relationship between organizational form and provision of access good.

Regarding the choice of the organizational form, firms that want to participate in the lobbying process have to make some decisions: at first, they have to deal with a sort of make or buy decision. They have two alternatives, they can organize their political activity themselves or address this task to a third party, normally a political consultant or a law firm. Second, they have to decide whether to undertake individual political actions or become part of an association. It is important to underline that this trade-off is not mutually exclusive and a firm can use both these strategies at the same time. The last decision concerns the choice of the level of interest of their political activities. They can decide to participate only at national level or at the EU level, or use both channels.

	<i>Individual action</i>	<i>Collective action</i>	<i>Third party</i>
National level	Individual national action	National association	National consultant
European level	Individual EU action	European association	Brussels consultant

Table 3 Organizational forms of interest representation; Source: (Bouwen, 2002)

But what are the variables that influence and determine the choice of the organizational form in a firm? Why does an interest group decide to operate in one way rather than another? Even in this case, Bouwen identifies three important variables: the size of the firm, the economic strategy of the firm and the domestic institutional environment of the firm.

The size is the first important variable because large players have more resources to invest in individual lobbying, and only large firms have the possibility to implement an efficient lobbying strategy on their own. Smaller firms prefer to collaborate with others, forming associations, but it is not rare that even big players join associations because this system is

less resource-expensive and it is possible to 'share' the cost of lobbying with the other members.

A second variable is the economic strategy of the firm, indeed different market strategies require different political strategies: firms that operate in only one country or in a limited area are less interested in European policies, compared to big players with large internationally orientated strategy. It is also important to emphasize that the growing power gained by EU institutions, due to the gradual establishment of the Internal Market, has increased the interest in EU policy-making even for smaller players.

The third important variable to take in consideration is the domestic institutional environment in which the firm operate. In particular, it is important to understand the degree of state administrative autonomy from private actors and the level of state control of the economy (Greenwood & Aspinwall, 1998). If private actors manage to build a close relationship with their national institutions, they will be less interested in lobbying directly at European level.

Private actors want to establish an exchange relationship with targeted EU institutions, and the provision of the access goods is crucial to achieve this goal. However, not all actors have the same capacity to provide the same quality of access good. The variable that determines the kind of access good that can be provided is the organizational form of interest representation. The efficiency, in term of quality and quantity of the access goods, is important as much as the type - EK, IEEL, IDEI - of access good provided. Bouwen suggests two variables that determines the quality and quantity of an access good provided: the number of layers of the organizational form and the complexity of its internal decision-making process.

The term "layers" refers to the decision of the firm to participate alone or in a national or European association. Individual firms have the possibility to answer more rapidly to the needs of the institutions, but associations have the possibility of bundle information from different sources and provide a more comprehensive good (Coen & Richardson, 2009). Efficiency is also influenced by the complexity of the internal decision-making, the less the process is complicated, the faster the provision is.

There is another variable, a little bit different from the others, that also influences this process, the so-called credibility, that is the quality of being trustworthy. Bouwen defines

credibility as 'derived access good' because it derives from the consistent provision of high-quality access goods over the time.

To finish the analysis of the supply-side, Bouwen, analyses the three main organizational form, to underline some recurrent patterns and see how they are influenced by the two variables previously discussed:

- Individual firms are divided between small or large firms, because the big resource asymmetry explains the difference of access-good providing capacity. Large firms are the best sources of EK because of their high specialization in one specific market sector and the availability of technologically advanced R&D divisions. The strategy of large firm can concern regional, national or European level of interest; large firm with European strategy can provide information about European interests. Similarly, large firm with national strategy can provide useful information about national interests. However, they have some difficulties to provide some encompassing interest information, both national and European, because they operate on their own.
- Associations' main goal is to build consensus between their members. This is why they are not as good as individual firms at providing EK. On the other hand, their bundling capacity allows them to have high quality information about encompassing interests of their members, both for domestic and EU interests. National associations have a natural propensity for the domestic interests and European associations deal with the European ones.
- Consultants work closely with their clients, but they have limited capacity to provide access goods. They do not represent their own interests: they collaborate with their clients and develop a strategy, built on clients' needs, to enable them to supply access goods to the EU institutions.

The table below summarizes the different supplying capacities of the organizational forms to provide access goods.

	<i>Best provided access good</i>	<i>Ranking of capacities to provide access goods</i>
Individual firm	EK	EK>IDEI>IEEI
European association	IEEI	IEEI>EK>IDEI
National association	IDEI	IDEI>EK>IEEI
Consultant	EK (client = individual firm)	EK>IDEI>IEEI
	IEEI (client = European association)	IEEI>EK>IDEI
	IDEI (client = national association)	IDEI>EK>IEEI

Table 4 Supply of access goods; Source: (Bouwens, 2002)

3.5.2.2 *The Demand-Side*

To fully understand the theory of access, it is essential to analyse the demand for access goods. Every EU institution needs a different kind of access good because of the role that it plays in the EU decision-making process. Indeed, the formal powers of an institution and the timing of the intervention in the process determine, to a large extent, the institutions' demand for access goods.

It is possible to identify which is the most required type of access good for the fulfilment of each institutions' legislative role:

- The EC is considered the institution in charge of promoting common European interests, trying to further some draft proposals that encounter a wide consensus between the member states. To play this role, the EC needs information about IEEI to identify common interests around the EU.

As explained in the first chapter of this work, the EC plays a central role in the EU legislative process. Indeed, it has the formal right to initiate legislation process in the so-called agenda-setting phase. This task requires a substantial amount of EK, particularly when new legislative areas are explored or very technical proposals have to be formulated. EK can be considered the critical access-good for the EC's legislative work. The EC is not primarily interested in DEI because the EC is primarily involved during the first stage of the EU decision-making process, where domestic interests are not yet being identified.

- The EP has supranational and intergovernmental characteristics, and it plays the function of legislator, together with the Council. The EP has the task to evaluate the proposals received by the EC from a European point of view. EK is useful to understand the EC's draft proposals but it is not a core resource of the EP, because it relies on the EC's work. The critical access-good for the EP is the IEEI because it gives to the institution a wide representation of European needs and interests.

It is also important to underline that the MEPs are elected at national level, and they have the task to represent, and defend, the interests of the European citizen in general, with special regard to the interests of their respective country. This is why MEPs are interested in Information about the Domestic Encompassing Interests.

- The Council shares legislative power with the EP, and it has the task to reconcile the distinctive purposes and needs of the EU member states in the creation of EU policies.

The Council's request for EK is limited, because the legislative proposal that arrives to the Council has already been technically elaborated by the EC and revised by the EP. The Council has a considerable interest in IEEI, but it is more interested in the IDEI, to identify the interests of the different EU member states. This is necessary to facilitate the bargaining process, shaping the legislative proposals and adjust them to their needs. Table 5 resumes the ranking of the dependencies from the different types of access goods.

	<i>Critical resource</i>	<i>Ranking of dependencies</i>
European Commission	EK	EK>IEEI>IDEI
European Parliament	IEEI	IEEI>IDEI>EK
Council of Ministers	IDEI	IDEI>IEEI>EK

Table 5 Demand for access good; Source: (Bouwen, 2002)

3.5.3 Conclusion and starting point for the analysis

Putting together the two tables of supply and demand (see table 5 and table 6) it is possible to derive some interesting outcomes that will be better analysed in the following analysis. It's very important to underline that in order to explain the access of the groups of interests to the EU institutions, it's necessary to take in consideration both sides of this process at the same time. Only when both supply and demand conditions are fulfilled it is possible to have a mutual exchange between institutions and interest groups. The main finding of this theory is that EU institutions will be more prone to give access to private interests which control and provide the institutions' most critical resource; on the other hand, the private actors who will be able to provide the best critical access good in the most efficient way will gain a privileged access to institutions.

Only the findings related to the EC are described because this master thesis work mainly relates to the EC as venue of interest representation. In particular, according to Bouwen, it is possible to expect a major participation and access to the EC decision-making process by the individual firms, in particular the biggest ones that have more financial and technical resources to provide EK, the critical resource for the EC. European associations have less access to the EC than firms, but play an important role for two main reasons: firstly, they are better than firms in put together IEEI, useful for the EC, and, secondly, because they give the possibility to the smaller firms to participate in the EU decision-making process. Often, small firms join associations to share the cost of lobbying activities. National associations, in the end, have the lowest degree of access to the EC because IDEI is not so relevant in this stage of the policy-making process. They will be more involved in the following steps of the process with other EU institutions.

In chapter 5, an attempt to apply the Bouwen's theoretical framework to the public consultation process in radio spectrum policy area is made.

CHAPTER 4

METHODOLOGY

This chapter aims to describe the methodology adopted to realize this master thesis work and the way in which the data were gathered and then used in the analysis.

This work can be divided in two different main phases: a first part, dedicated to the build of the theoretical framework and the second dedicated to the data collection and the development of the analysis.

4.1 The theoretical framework

The theoretical part of the thesis has been built through a long time-consuming phase dedicated to the reading and the analysis of many different sources; this part of the work was essential to build a basic knowledge of the main topics on which the research and the analysis were then developed.

At first, it was necessary understand the main mechanisms of the EU regulatory machine. Secondly, the focus of the work is shifted on the comprehension of radio spectrum and his management and in the end, the last part of these phase was dedicated to the study of the lobbying phenomenon and his main features.

All these parts of the work were mainly conducted with the reading of secondary data sourced from official documents, reports, news articles, academic papers and books; most of them have been collected through Google Scholar and the Chalmers University Library. To perform a careful and extensive research aimed at the collection of documents, the web was the main research tool and, to enlarge the number of consulted sources and found new relevant literature to consult, has been applied a backward and forward snowballing techniques, starting from a start set of literature and trying to expand the knowledge about that topic.

Backward snowballing means using the reference list to identify new papers to be included, while forward snowballing refers to identifying new papers based on those papers citing the paper being examined (Wohlin, 2014).

The scheme in the picture below summarize the functioning of snowballing methods.

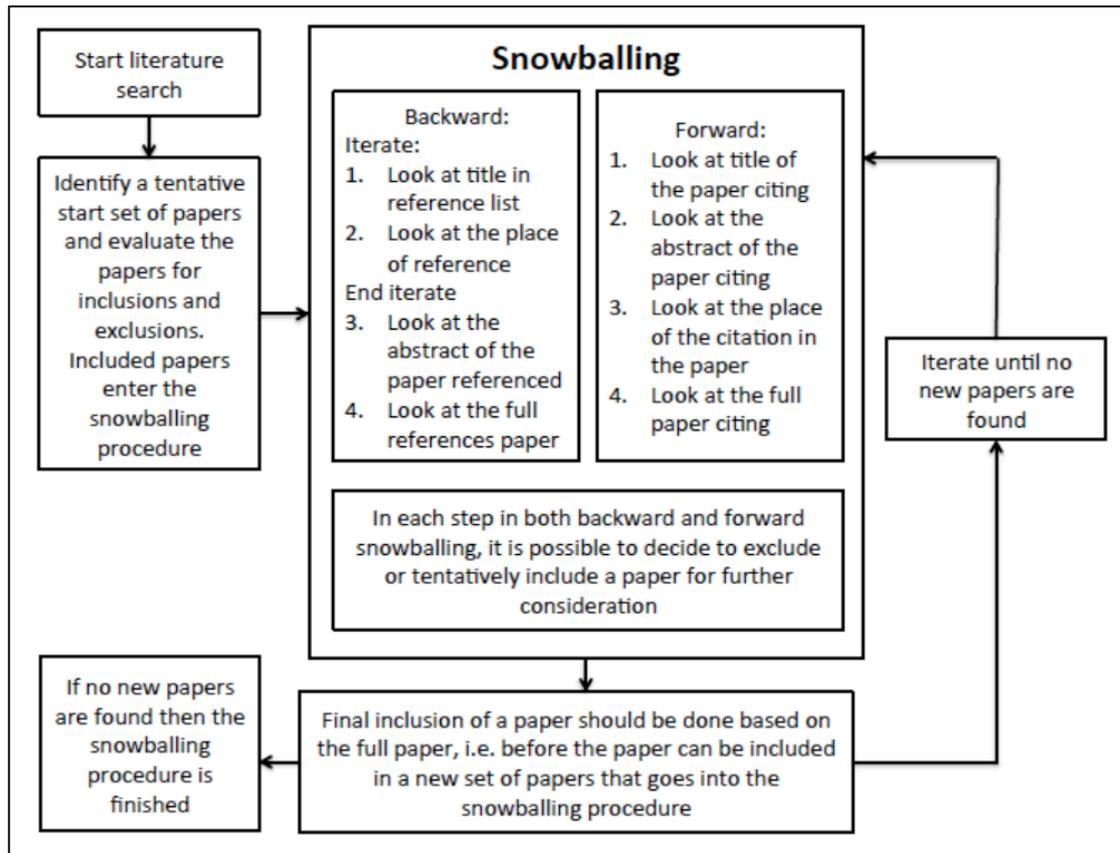


Figure 9 The Snowballing Method; Source: (Wohlin, 2014)

One of the main advantage of using a combination of backward and forward snowballing is to avoid to go too far back in time with the consultation of existing literature, and to take in consideration also more recent publications (Massaro, 2017).

The result of this first part of work are the Chapter 1,2,3 that have the final goal to give to the reader a detailed description and specify the theoretical framework in which the research has been developed.

4.2 Organization of the Analysis

The second part of this master thesis work is aimed to perform a qualitative research whereby some hypothesis derived from theory are tested through a data analysis.

The first part of this process was dedicated to the choice of a specific focus for the analysis, where investigate the lobbying phenomenon. The second part was aimed at the collection of documents and data to perform the analysis.

4.2.1 The choice of the focus

EU radio spectrum policy is an interesting area to explore as it attracts a wide variety of different actors, due to the importance and heterogeneity of the matters taken in consideration. As already shown in the previous chapters, radio spectrum management is one of the main issues involved in the DSM strategy. The interests of companies, organizations and incumbents of the telecommunication market, the satellite and broadcasting industry, the internet and mobile phone sector and many more orbit around this policy area. Indeed, in radio spectrum policy interest representation is quite active, as different parties are interested in exert pressure on policy-making process.

The main topic that investigate this thesis work is the phenomenon of lobbying in the EU radio spectrum policy. To do so, due to the complexity of the phenomenon of lobbying and the intricacy of the EU regulatory system, it was necessary to select a niche, in which focus the analysis. According to the literature, (see for example (Schaber, 1997), (Bouwen, 2002), (Greenwood, 2007), (Broscheid & Coen, 2007)), the EC is, from a lobbyists' point of view, by far the primary institution where the lobbying process begins.

For this motivation, the analysis is focused on the RSPG's public consultations process that is, in many case, the starting point for a new policy issue taken in consideration by the EC. Analyzing the RSPG's public consultation process can be useful to understand the logic and the main features of the lobbying process in the radio spectrum policy area: it is the perfect intersection between the main topics discussed in the thesis and it can provide interesting results, if well exploited.

4.2.2 Collection of documents

After having decided where to focus the analysis, the following step was to find and collect the relevant documents to study the topic. The RSPG's consultations are all available on the RSPG website (RSPG, 2017), free to access and consult. This availability of data and information has been the starting point of the analysis.

All the documents of the consultations have been read and analyse, and the data have been collected in an excel sheet. To enlarge the analysis another website was consulted, the TR

website (TR, 2017), in which it is possible to find other interesting data about lobby groups as it has been explained in section 3.4.

4.3 Research limitations

The main purpose of the research is to provide a detailed description of the lobbying environment in the EU, in particular focusing on radio spectrum policy area. By the way, some this work has some limitations generated by different factors.

At first, the topic investigated, has some proper limitations: lack of complete information about lobbying activities and access constraints, makes the evaluation of the lobbying activities harder from the outside, especially when it comes to judge effectiveness of lobbying activities.

Secondly, some methodological limitations are present because one of the weakest aspect of this research work is represented by the reliance on documents as the sole data source; no primary sources of data, such as interviews or questionnaire have been used. Furthermore, although some empirical correlations have been found out, no statistical analysis based on hypothesis testing has been conducted.

In the end, to narrow down the scope of the research some simplifications have been adopted: only the environment around the EC is at the centre of the study and, to be more precise, investigate the RSPG consultation process has been used as a proxy of the Commission. RSPG has a very important role in the EU radio spectrum policy, but his role is purely an advising role, it has no decisional power or direct responsibilities in policymaking process.

Referring to the documents consulted, all the consultations held by RSPG and consequently adopted by the EC, between January 2012 and December 2017 have been taken in consideration. The choice of this time span is due to two principal factors:

- at first, it is useful have a good number of consultations to collect data and build a dataset; typically, RSPG held two or three consultations per year, furthermore, considering a good number of consultations can improve the analysis because of the heterogeneity of the matters taken in consideration and consequently the different type of respondents. Radio spectrum policy covers a wide range of market sectors

and select only a small number of consultations could be influence some results related to the participation of the process;

- Secondly, the choice of this period is taken in a forward-looking manner, because in the second part of the analysis, another set of data taken from the TR will be added, and 2012 was the year of creation of Transparency Register.

The table 6, shows the list of RSPG’s consultations analysed, together with the information about the period of consultation and the number of answers received.

Title of consultation	Consultation Period	Number of Answer
Public consultation on the Draft Opinion on a long-term strategy on future spectrum needs and use of wireless audio and video PMSE applications	04 August 2017 -> 30 September 2017	17
Public consultation on the Draft Opinion on the Spectrum Aspects of the Internet-of-things (IoT) including M2M	18 November 2016 -> 09 January 2017	15
Public consultation on the Draft RSPG Opinion on Spectrum Aspects of Intelligent Transport Systems	17 November 2016 -> 09 January 2017	22
Public consultation on the Draft RSPG Opinion on spectrum related aspects for next-generation wireless systems (5G)	14 June 2016 -> 31 July 2016	37
Public consultation on the Draft RSPG Report on Efficient Awards and Use of Spectrum	22 October 2015 -> 21 December 2015	7
Public consultation on the Draft RSPG Opinion on the Review of the RSPP (Radio Spectrum Policy Programme)	22 October 2015 -> 21 December 2015	10
Public consultation on the Draft RSPG Opinion on Common Policy Objectives for WRC-15	14 November 2014 -> 12 January 2015	53
Public consultation on the Draft RSPG Opinion on a long-term strategy on the future use of the UHF band (470-790 MHz) in the European Union	14 November 2014 -> 12 January 2015	47
Public consultation on Licensed Shared Access	19 June -> 23 August 2013	36
Public consultation on Wireless Broadband	7 March -> 3 May 2013	48
Public consultation on the Draft RSPG opinion on Bilateral Assistance	21 November 2011 -> 10 January 2012	8
Public consultation on the Draft RSPG opinion on Spectrum Review	21 November 2011 -> 10 January 2012	9

Table 6 List of RSPG’s consultations analyzed

4.4 Research Questions

Before starting with the description of the qualitative analysis, it would be useful sum up the main purpose of this study, that want to enlarge the analysis, and contribute to the existing literature on the lobbying phenomenon, particularly focusing in the radio spectrum policy area. The main research question that this thesis aims to address is:

Who are the actors involved in lobbying activities in spectrum policy at EU level?

In order to address this question, two sub-questions are devised:

Sub-question 1. *How is lobbying conducted in EU radio spectrum policy and what are the main goals pursued?*

To answer sub-question 1, 12 public consultations held by the RSPG were considered. The results of the analysis were compared with the main findings of Bouwen's theory of access (Bouwen, 2002), to verify whether Bouwen's theory applies to the EU policy field of radio spectrum.

Sub-question 2. *How is transparency promoted in the EU? Is the TR method effective?*

Sub-question 2 focuses on the 'transparency issue', which is central in the EU policy debate on lobbying activities. To answer this research question, data from the EU TR were used.

Sub-question 3. *Is it possible to define some recurring behaviours or activities, held by lobby groups, to have access to institutions?*

To answer to sub-question 3, starting from the data derived from the previous parts of the analysis, new findings were produced, putting together the information and the data from RSPG and the EU TR.

CHAPTER 5

EMPIRICAL EVIDENCES AND ANALYSIS

This chapter presents the analysis conducted to answer the main research question: “Who are the actors involved in lobbying activities in spectrum policy at EU level?”. The analysis is structured into three parts, each part dealing with one of the sub-questions outlined in the method chapter.

The first part presents the analysis of the data gathered from RSPG consultations, used to answer sub-question 1: How is lobbying conducted in EU radio spectrum policy and what are the main goals pursued? The second part of the analysis uses the data gathered from the transparency register, to answer sub-question 2: How is transparency promoted in the EU? Is the TR method effective? Testing the effectiveness of TR, try to find a match with the data of lobby organizations derived from the first part of analysis. In the end, the last part of the analysis answer to sub-question 3: Is it possible to define some recurring behaviours or activities, held by lobby groups, to have access to institutions? Putting together the information from both RSPG consultations and TR to try to find some interesting correlation between data.

5.1 Analyzing RSPG’s public consultation process

The starting point of the analysis has been the selection of 12 RSPG consultations held between January 2012 and December 2017. A dataset was created including a total of 309 answers corresponding to 151 different respondents to the 12 consultations analysed.

A common aspect of the answers was that they were characterized by a strong technical and detailed nature, confirming existing literature (Broscheid & Coen, 2007) that declare the fact that the information gathered through the consultation process are strongly focused on technical issue and expert knowledge (Bouwen, 2002).

Further conclusions could be extracted by the Table 7 below, in particular it is possible to see that the number of answers given to a consultation varies from a maximum of 53 to a minimum of 7, with an average number of answers per consultation around 26.

TOTAL Answers	309
AVG answers per consultation	25,75
Max Answer	53
Min Answer	7
St. Deviation	16,64

Table 7 Descriptive data on RSPG's consultations

The big difference of answers between different consultations could be interpreted as a proxy of “relevance of the issue” taken in consideration: the higher the number of answers dealing with a topic, the more relevant the topic may be. Furthermore, more answers could be also interpreted as a sign of “appeal” of the issue, seen as a proxy of interest from a lobbying perspective. It is also important underline that some consultations caught less interest for motivations linked with the nature of the topic, because the issue taken in consideration is referred to a niche of stakeholders or a specific market.

Respondents were categorised in 8 different classes, including:

- Company;
- EU association;
- National association;
- NGO;
- Academic;
- EU member state;
- Consultancy firm;
- EU agency.

This division of respondents was made with the intent to recognize if some groups were more interested than others in participating. Since it was not possible to evaluate the quality of the answers, the analysis only considered the quantity of the answers. As shown in Table 9, the number of answers would show a strong interest, in participating to the consultation process, by companies and EU associations. This finding seems to confirm the theory of access main results, that this two groups are the most incentivized to interact with the institutions in this first part of decision-making process. They own the technical know-how to provide EK to the RSPG and try to improve the quality of RSPG final report.

<i>Group of respondents</i>	<i>N° respondents</i>	<i>N° Answers</i>
COMPANIES	75	144
EUROPEAN ASSOCIATION	27	85
NGOs	6	9
ACADEMIC	4	6
CONSULTANCY FIRM	4	7
MEMBER STATE	16	26
NATIONAL ASSOCIATION	15	28
EUROPEAN AGENCY	4	4
TOTAL	151	309

Table 8 Division of respondents by group to RSPG's consultations

Considering the number of respondents, it is possible to see that companies are the major part of the total amount with 75 different respondents belonging to this group, around 50% of the total. European association responses are 27, representing the 18% of total amount. It is also possible to see the division of respondents by group in the “pie chart” below, see Figure 10, companies and European associations constitute together the 68% of total respondents.

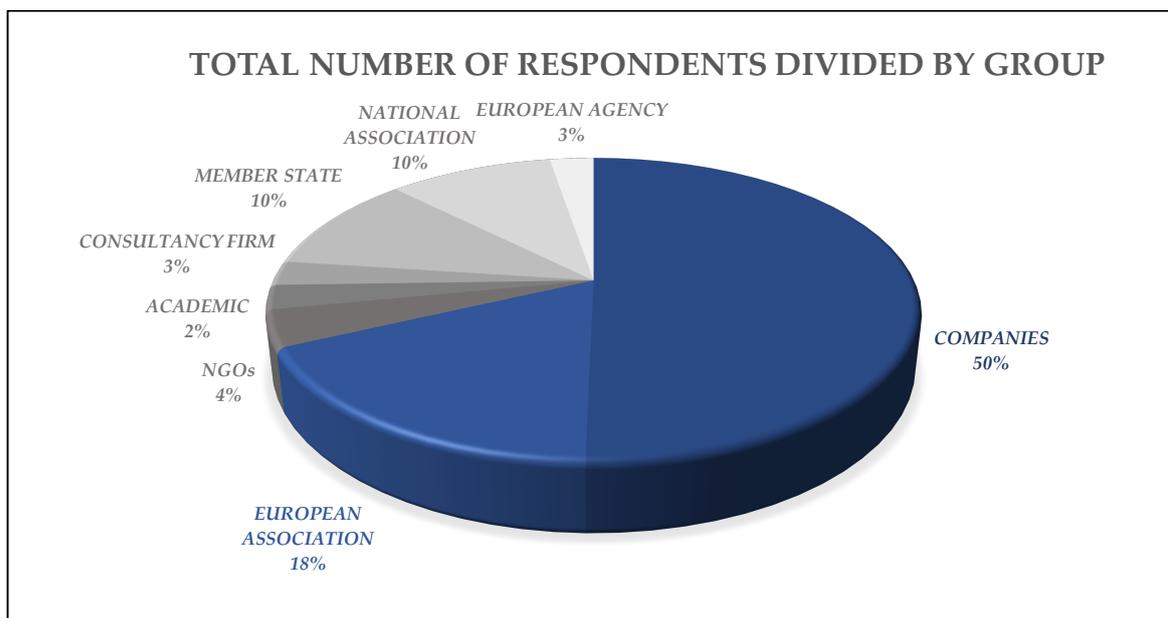


Figure 10 Pie Chart: total number of respondents divided by group

It is also interesting to underline that often, companies, especially the biggest ones, decide to answer on their own, although they are part of EU associations. This phenomenon takes the name of ‘dual lobbying’ and was already studied by Guèguen. Depending on the issue,

the company could undertake its own lobbying action or conversely, choose to participate to the process under the “association hat” (Guéguen, 2002).

In addition, as it is possible to see in the two tables below, if the top 5 European Associations (Table 9) and top 5 companies (Table 10) with major number of answer to the consultations are taken in consideration, it’s easy to notice that all the top 5 companies are member in at least one of the top 5 European associations.

This behaviour is a consequence of strategic company choices: on one hand, someone seeks for visibility and wants to clearly declare its position regarding an issue, or on the other hand, others prefer to stay relatively anonymous. On counterpart, it is possible to see in the dataset that some big companies that works in the high technology or telecommunications market, two of the biggest markets related to the spectrum, participate only once in 8 years of consultations, such as Google and Vodafone.

There is also a cost evaluation to do, lobbying alone means bearing the cost of lobbying activities alone, instead lobbying through associations means share the costs with the other members. This is why only big players of the market can consider the possibility of dual lobbying, whereas smaller players prefer to use the associations power.

TOP 5 EUROPEAN ASSOCIATION RESPONDENTS		
RESPONDENTS	N°Answers	Type of Respondents
<i>GSMA</i>	11	European Association
<i>EBU</i>	8	European Association
<i>ESOA</i>	7	European Association
<i>DIGITALEUROPE</i>	7	European Association
<i>ETNO</i>	5	European Association

Table 9 Top 5 Respondents EU associations

TOP 5 COMPANIES RESPONDENTS			
RESPONDENTS	N° Answers	Type of Respondents	Membership
QUALCOMM	7	Company	DIGITALEUROPE, ETNO, GSMA
TELEFONICA	7	Company	ETNO, GSMA
TELECOM ITALIA	7	Company	ETNO
ERICSSON	6	Company	DIGITALEUROPE, ETNO, GSMA
SAMSUNG	4	Company	DIGITALEUROPE

Table 10 Top 5 respondents companies

If the analysis takes in consideration the number of answers instead of number of respondents the data are even more explanatory. The first confirmed finding is that, as already seen, EU associations and companies are the main actors of this process. Companies' answers are 144 out of the total 309, representing 47% of the total answers and EU associations' answers are 85, 28% of the total. This two groups together cover 75% of the total, as shown in the pie chart below (Figure 11).

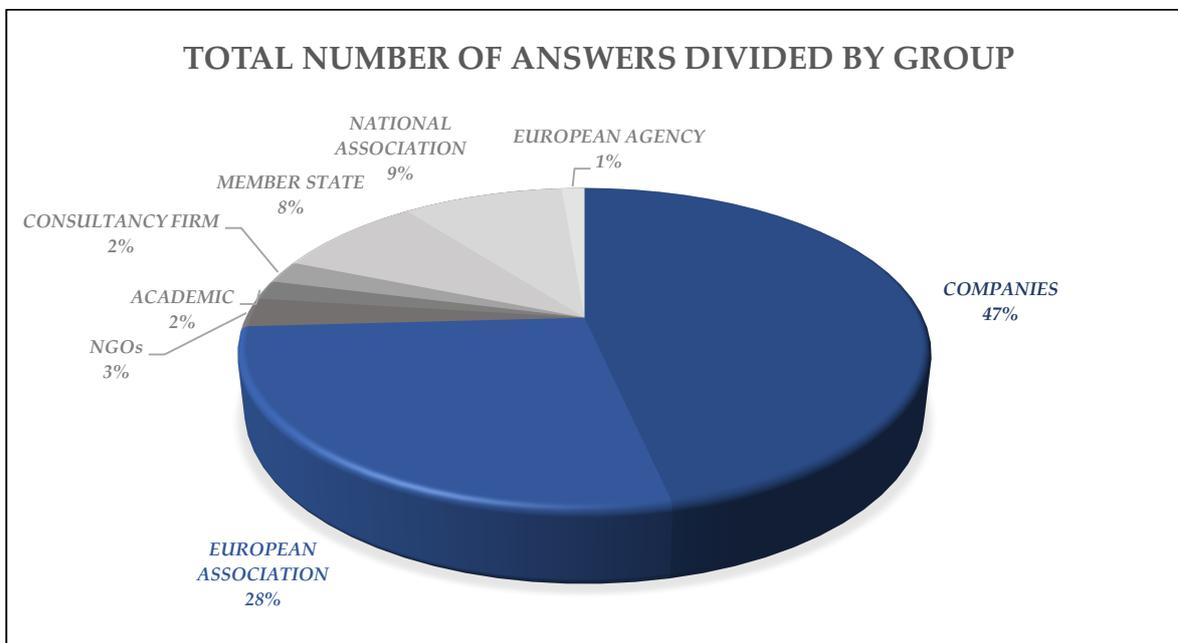


Figure 11 Pie chart: total number of answers divided by group

Another interesting data is provided by the average number of answers per type of respondent: here, it is possible to notice that EU association had more than 3 answers each,

while all the other types of respondents have less than 2 answers. In particular, comparing the data from the companies (1,87) and the one from EU associations (3,15), it is possible to think some explanations of this difference. Referring to the dual lobbying previously mentioned, it has been explained that lobby alone is more expensive and only the big companies had enough resources to put in practice this method; another possible motivation is that associations gather a wide range of participants, even from different market sectors and, consequently, even the number of interests to be represented are higher.

<i>Group of respondents</i>	<i>N° respondents</i>	<i>N° Answers</i>	<i>AVG Answer per resp.</i>
COMPANIES	75	144	1,92
EUROPEAN ASSOCIATION	27	85	3,15
NGOs	6	9	1,5
ACADEMIC	4	6	1,5
CONSULTANCY FIRM	4	7	1,75
MEMBER STATE	16	26	1,63
NATIONAL ASSOCIATION	15	28	1,87
EUROPEAN AGENCY	4	4	1
TOTAL	151	309	2,02

Table 11 Data resume of RSPG's consultation

By applying Bouwen's theory of access to the results of this first part of the analysis, it can be claimed that:

- The access good that is key to access RSPG is technical knowledge;
- The principal actors that want to access the policymaking process are companies and associations that work at EU level of interest;
- Companies are the best providers of EK, that is the resources that EC seeks the most.

In general, the analysis of the RSPG's public consultation process has given the expected results, confirming in large manner the theory and the existing literature, giving in addition to Bouwen theory confirmations, also some evidence of different lobbying strategies in particular referring to the so-called 'dual lobbying' technique.

5.2 The transparency issue in radio spectrum policy area

This second part of the analysis was based on data gathered from the TR, which were added to the data collected from the RSPG consultations. As previously explained in chapter 3, the TR is the tool used by the EU institutions to try to regulate lobby organizations. In particular, the main goal of the TR is to ensure that information on lobbying activities is publicly available.

5.2.1 An overview on TR data

The TR today, counts almost 12000 registrations, and the entries are divided in 6 classes as it is shown in the table below (Table 12). It is important to recall that all the information in the register has been inserted by the different organizations themselves. The registration is not mandatory, but it is clear that is a good starting signal to manifest cooperation and willingness to be as more transparent as possible.

The TR has known, since its creation at the end of 2011, a progressively increasing growth hand in hand with the widening of privileges for those who register and the increase of the limitations for those who did not.

NAME OF THE GROUP	Entries
I - Professional consultancies/law firms/self-employed consultants	1315
II - In-house lobbyists and trade/business/professional associations	5788
III - Non-governmental organisations	3071
IV - think tanks, research and academic institutions	897
V - Organisations representing churches and religious communities	53
VI - Organisations representing local, regional and municipal authorities, other public or mixed entities, etc.	567
TOTAL	11691

Table 12- Entries in the TR divided by Classes; Source: TR data (last update 26/02/2018)

The first results that catches the eye is that Group II, which includes both companies and associations, is the most numerous, and has about 50% of the total registrations. This confirms that these two types of actors are the most active when it comes to lobbying activities.

A second interesting finding is that the division of classes provided in the previous part of the analysis is comparable with the one of the TR except, for group V and VI, the other classes are almost the same; it is also important to notice that group V and VI cover a specific type of registrants that will hardly have to deal with lobbying activities in radio spectrum, so their absence from RSPG's consultation is fully justified. In the next part of the analysis the author has decided to maintain his own classification because it is considered less general and more useful for analysis purposes, and it is free from any errors in data entry by the registrants.

5.2.2 The RSPG consultations respondents in the TR

The second part of the analysis has been developed in two phases, aimed to answer to sub-question 2 and 3: at first, some evaluations on the TR function and his level of adoption are presented, looking in particular at the case of RSPG respondents; secondly, the research has gone in-deep in the analysis of the actors of the lobby arena in radio spectrum policy, adding more useful data and trying to better understand the actors' behaviours.

Due to the fact that the transparency issue is at the centre of policy debate, it was considered interesting to study empirically how the TR works and which level of coverage has reached, and to do so, it was necessary to merge the old data from RSPG consultations and the new ones from TR.

In the first step, it will be very easy to understand how many organizations that participate in the RSPG's consultations are enrolled in the TR: the simple way is to make a comparison match between organizations registered in the TR and the resulting dataset from the first part of the analysis.

Answering to this question, it is possible to have a good measure of effectiveness of TR initiative to try to analyse sub-question 2.

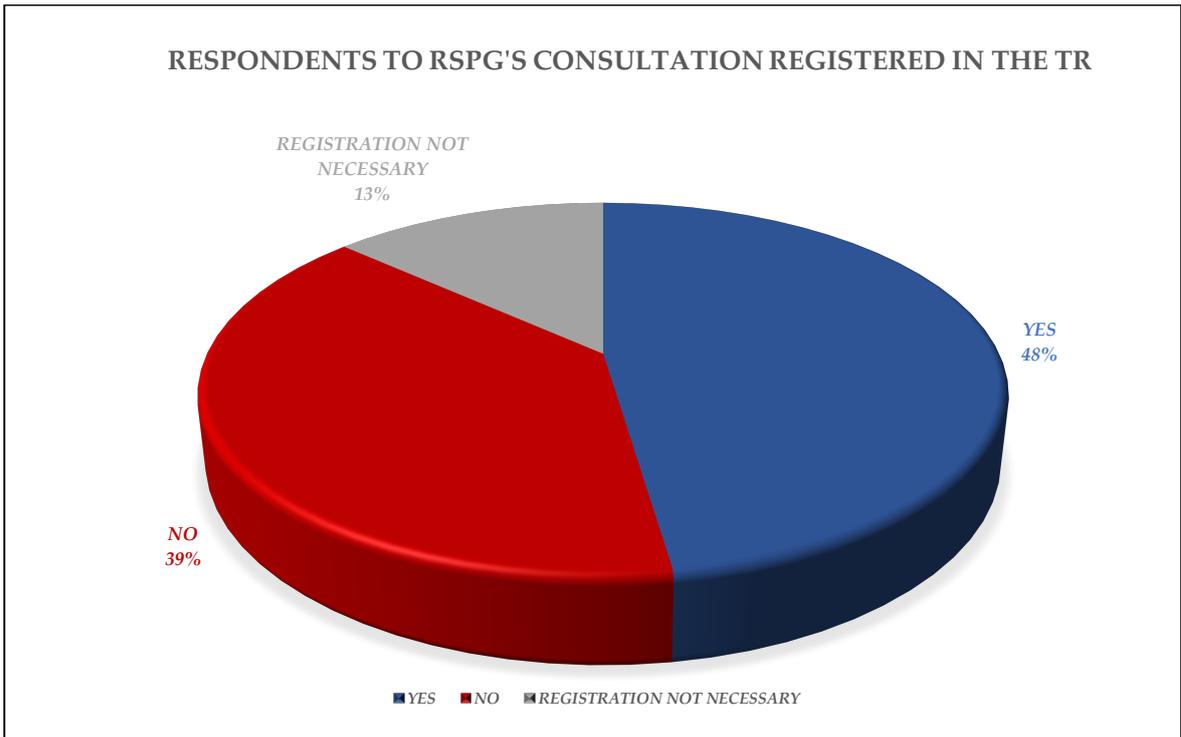


Figure 12 Pie Chart: respondents to RSPG's consultations registered in the TR

The answer to the question is shown in the pie chart above, but an explanation is due to the reader: among the 151 respondents to the RSPG consultations, 20 (13% of the total), belong to the groups 'MEMBER STATE' and 'ACADEMIC', which are not required to register in the TR. The total sample taken in consideration is composed by 131 respondents, and the first result is that only 73, corresponding to the 48% of the total, are currently enrolled in the TR and the remaining 39% are not registered yet.

At first, this data implies that only half of the participants to the RSPG's consultation process are registered in the TR, and more importantly, that around 40% of the participants seems to have no intention to register.

To try to understand the reason why of this behaviour, the analysis has looked at the respondents more in-depth trying to analyse the different groups: the results are shown in the picture below.

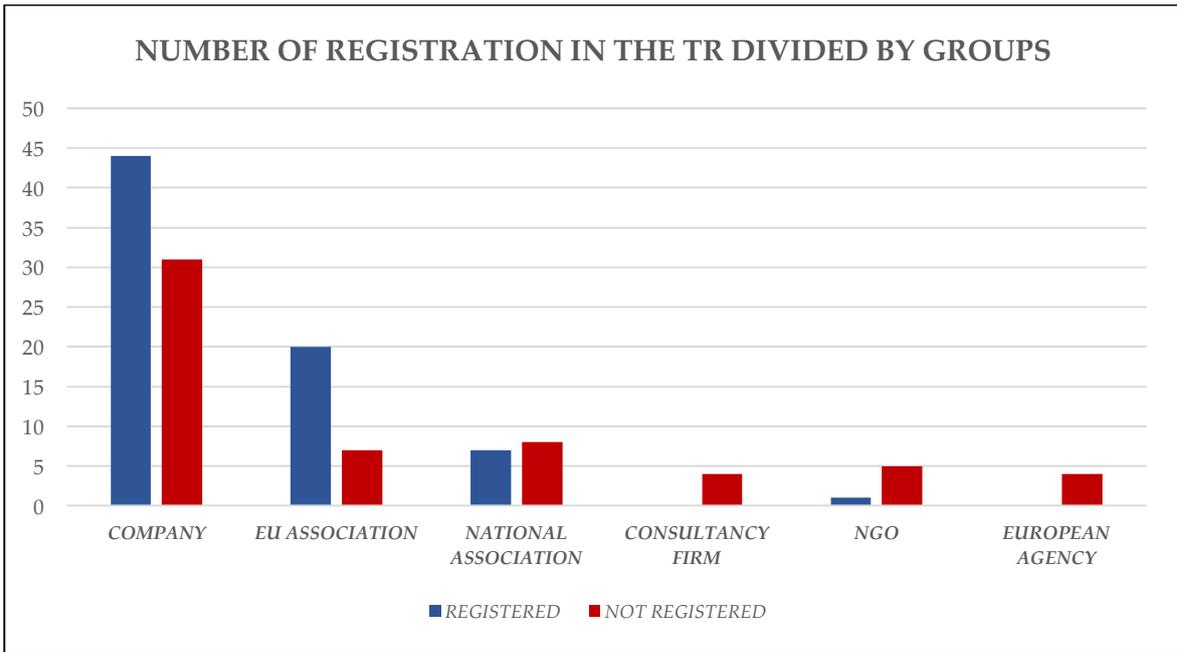


Figure 13 Number of registration in the TR divided by groups

It suddenly appeared that there are two different behaviours: consultancy firms, NGOs and European agencies have few answers to the consultations and seem not to be interested in registering in the TR. In general, they are not very involved in the consultation process. A different reasoning has to be done for the companies and the associations – national and European – because the data results are really different and even in Bouwen’s literature these were the three categories investigated in the theory of access.

The data referred to these three groups are: national associations show a percentage of registration near 50%, with the registrations of 7 out of the 15 respondents; companies goes near the 60% with 44 registrations on 75 respondents and the best result comes from EU associations that has 21 registrations on 27 respondents, that translate is more than 75%. In conclusion, looking at the aggregate level of the data, it is possible to say that the process of registration has room for improvement.

By the way, to better understand the motivation of this ‘scarcity of registration’, the analysis is proceeded with some refinements.

In particular, remembering the results shown in table 12, the average number of answers for every respondent is approximately two. This number could be used as a threshold value to create two different classes of respondents: one class is composed by respondents with more than two answers, and the other one with two answers or less. This distinction has

been done to separate actors that have been involved more times in the process, in contraposition with actors that answer only few times.

The outcome of this separation is shown in the figure below, which shows that with regard to the 'more participative' the percentage of registration is over 80%, while the percentage of registration in the 'less participative' group is under 45%.

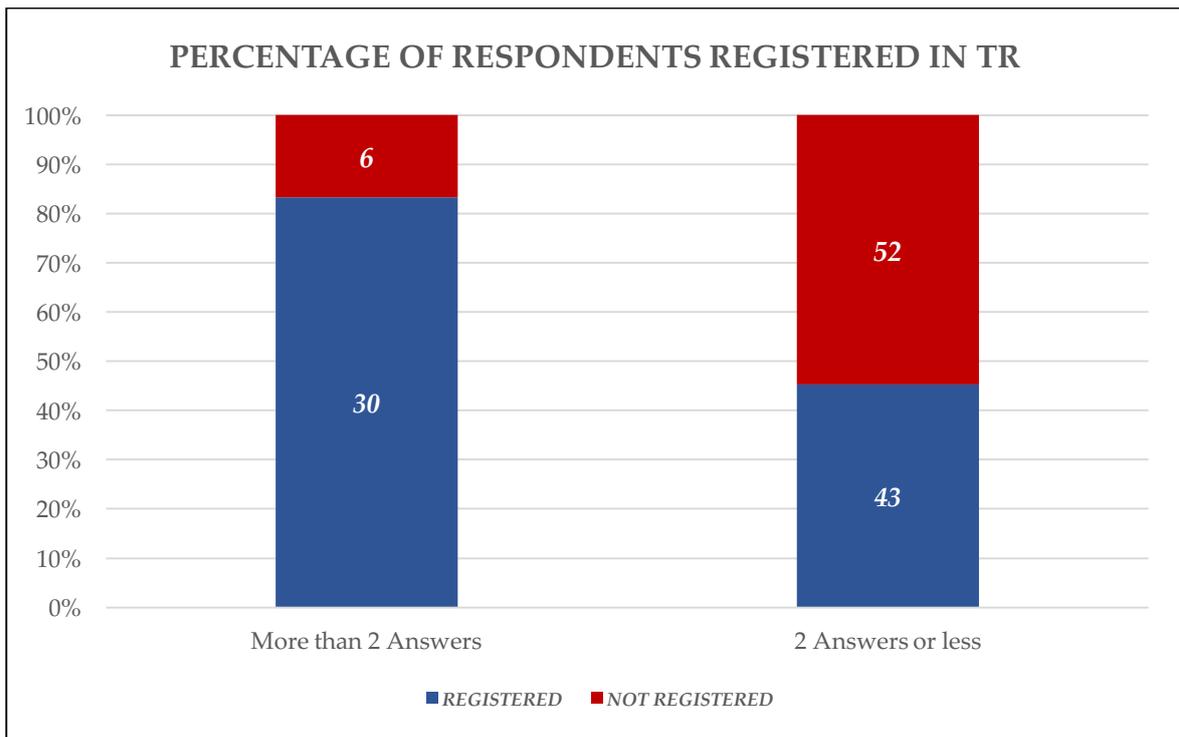


Figure 14 Percentage of total respondents registered in TR

Looking at the results, it could be hypothesised that actors that participate several times in consultation process are more likely to register in the TR, while those who participate sporadically are not interested in doing so.

Narrowing down the analysis to companies and EU associations, the two groups more involved in the consultation process, the result is even more interesting.

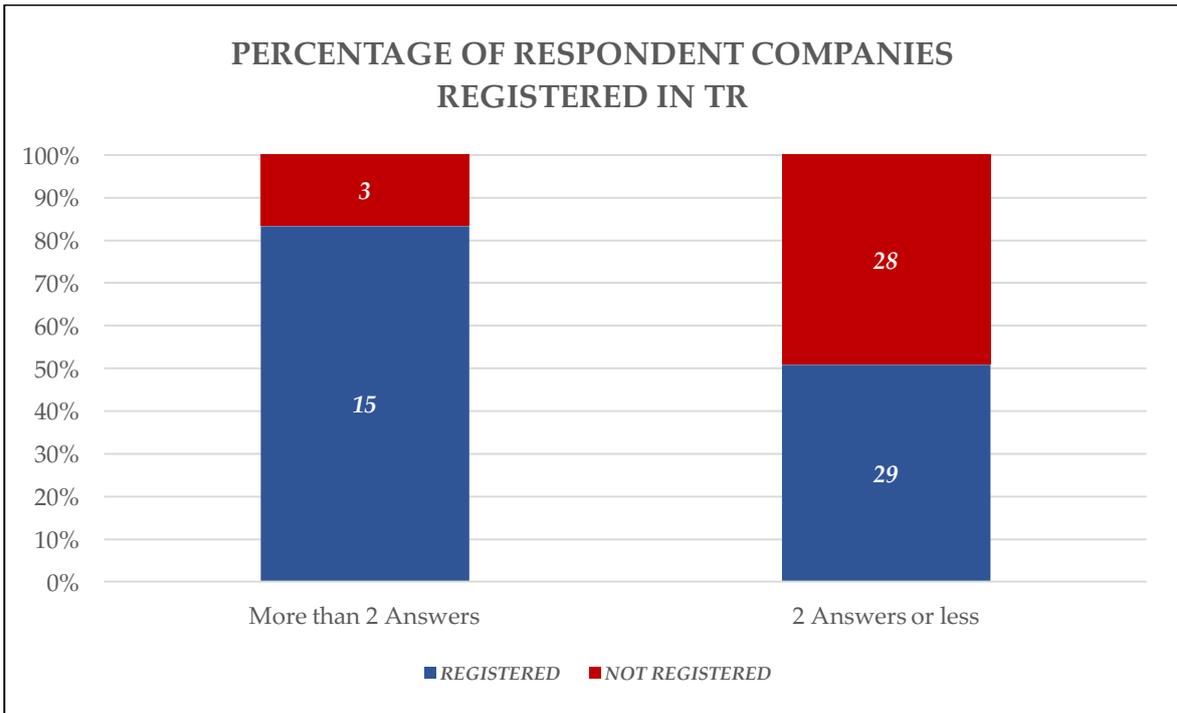


Figure 15 Percentage of total respondents companies registered in TR

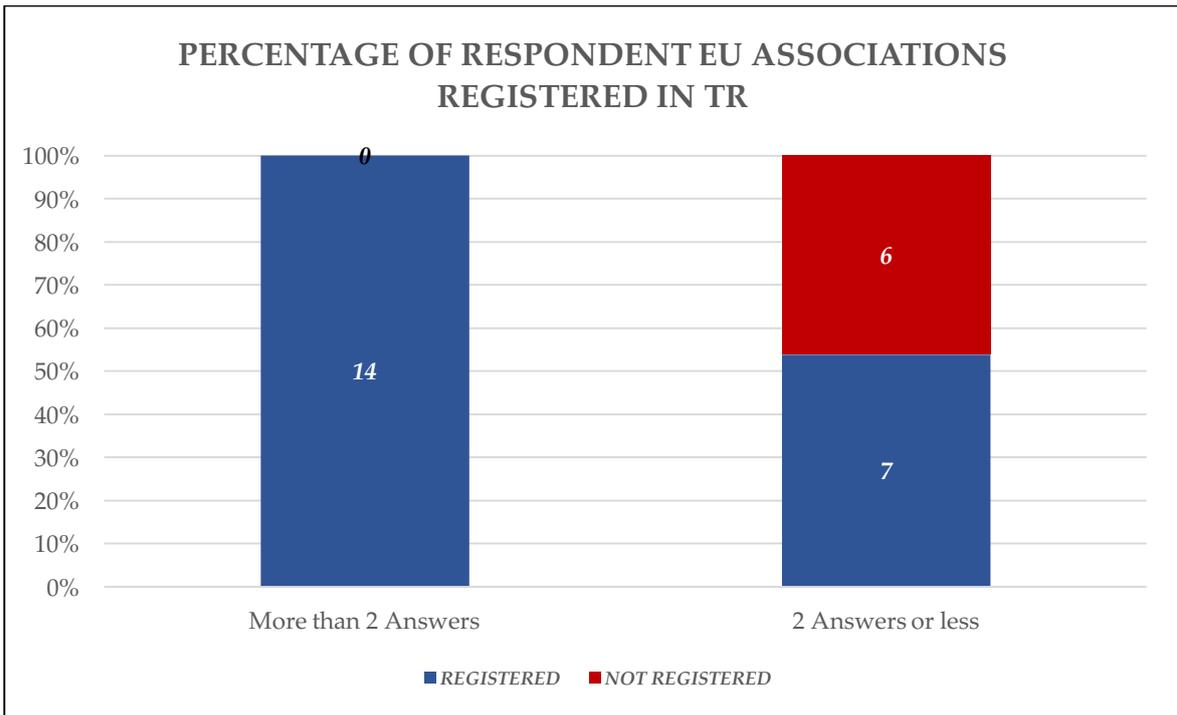


Figure 16 Percentage of respondent EU associations registered in TR

Companies with more than two answers have a percentage of registration near 85% and, in the case of EU associations the percentage rises to 100%. A positive correlation between number of answers to the consultations and the probability to be registered in the TR has been demonstrated.

Looking from this perspective, the effectiveness of the TR could be judged with a different value and could drive to other interesting evaluations: at first, it is confirmed that the more the lobby group wants to participate the more likely it is that it is registered in the TR; and on the contrary, seems that for other groups, the registration is not perceived as important, especially if they participate few times.

The value of the registration in the TR is more recognized by the ‘most active’ part of the participants, but this phenomenon could be explained in a very simple way: it can be supposed that, the more a lobby group is interested in issues taken in consideration by policy makers, the stronger is the will to exert pressure on the policy process to promote its own interests. The registration in the TR gives to the lobbyists some advantages, as it has been explained in chapter 3. In particular, it is an ‘access door’ to the EU institutions, and at the same time, a demonstration of the willingness to be transparent. In the table below, it is possible to see that on average, organizations registered in the TR, answer 2,63 times while organizations not registered only 1,47 times: this data means that registered groups, on average answer almost twice as many times as those not registered.

	Total Respondents	Total N° of Answers	AVG Answers per resp.
REGISTERED	73	192	2,63
NOT REGISTERED	58	85	1,47

Table 13 Final results

In conclusion, it seems that the effectiveness of the EU institution initiative, started at the end of 2011 with the invitation to join the register, aimed to promote the transparency, is starting to give some good results. In particular the registration rate of lobby groups more frequently involved in consultation process is good but, a greater effort is necessary to ensure that, even the less active groups, adhere to the TR in order to have an even clearer and more detailed picture of the lobbying situation in EU.

The last part of the analysis will be focused on the 73 registered respondents, using the TR data entries to investigate more in-depth some behaviours and individuate, where it is possible, some recurrent characteristics proper of lobby groups.

5.2.3 “Inside” the TR

The TR is good provider of additional information, that could be take in considerations for further analysis on lobbying activities. The data that the analysis use to enlarge the analysis are extrapolated by the official site of TR, and the EU integrity watch website (EU Integrity Watch, 2018), a website created by Transparency International (see section 3.4.3), to gather the information of TR and product graphical analysis.

To answer to sub-question 3, a selection of among the amount of data entries requested during the registration to the TR has been made: the final aim is to provide additional descriptive data and interesting reflection points about lobbyists behaviours.

The data taken in consideration are:

- Head office state;
- Registration Date to the TR;
- Presence of an office in Brussels;
- Full time equivalent (FTE);
- Estimated cost per year;
- Number of Meetings with Commissioners.

A resume of descriptive statistics regarding these variables, is presented in the table below.

<i>Variables</i>	<i>N</i>	<i>Min</i>	<i>Max</i>	<i>Mean</i>	<i>St.Dev</i>
<i>Registration date</i>	73	215	2432	1699,36	764,291
<i>Brussels Office</i>	73	0	1	0,59	0,495
<i>Full time equivalent (FTE)</i>	73	0,25	10	3,2089	2,72941
<i>Estimated Cost of lobbying activities (in k€)</i>	71	5,00	5375,00	647,03	973,13
<i>Meetings with Commissioners</i>	73	0	6	0,95	1,517

Table 14 Descriptive Statistics of TR data

The analysis proceeds with some considerations on each variable.

5.2.3.1 Head Office State

To start to have an overview on lobby groups, it is interesting look at the different state in which they have head office, to try to map from a geographical perspective the lobbying environment in radio spectrum policy area.

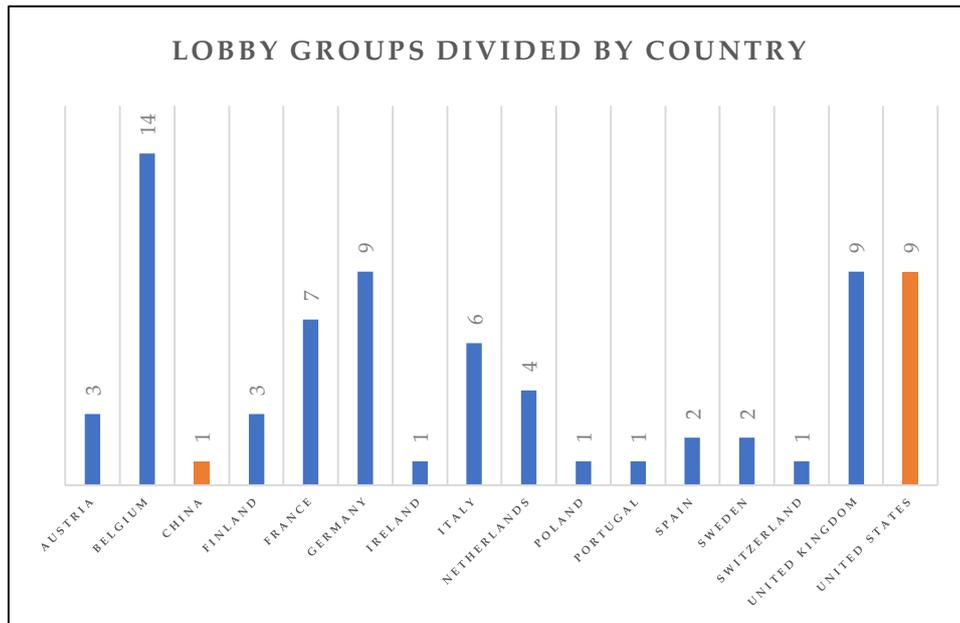


Figure 17 Lobby groups divided by head office country

The figure above (Figure 17) give some interesting results: at first, it's possible to see that the major part of the lobby groups has the head office based in Belgium, this behaviour will be better analysed in the next section (see section 5.4.3.3).

A second very interesting outcome is that also organizations outside the EU, participate in the public consultation process and registered in the TR. A possible explanation is that it's clear that, in the globalization era, organizations based in USA or China can have business in other continent but it's interesting to see that sometimes can be more present that companies from the European continent.

5.2.3.2 Registration date to the TR

The second data analysed is the registration date to the TR: it is a measure of the length of time an organization is enrolled in the TR, and it is calculated through the difference in

days between the date of registration in the register, and the reference date in which this data have been consulted (26/02/2018).

Looking at this data, could provide an interesting information about the amount of accumulated 'lobbying experience' of the different organizations.

In particular, it's possible to see that on average, lobby groups are registered from more than 4 years (1699 days = 4,65 years) and varies from a minimum of 215 to a maximum of 2432 that coincide with the date of creation of the TR, this is because these organizations were already registered in the first version of the register before the TR creation. It's also interesting looking at the trend of registrations during the years and could be useful compare the results with the general trend of registrations (see Figure 7).

As already explained, 26 organizations were already registered in old version of the register at the end of 2011, and in the following 3 years only 17 organizations registered in the TR

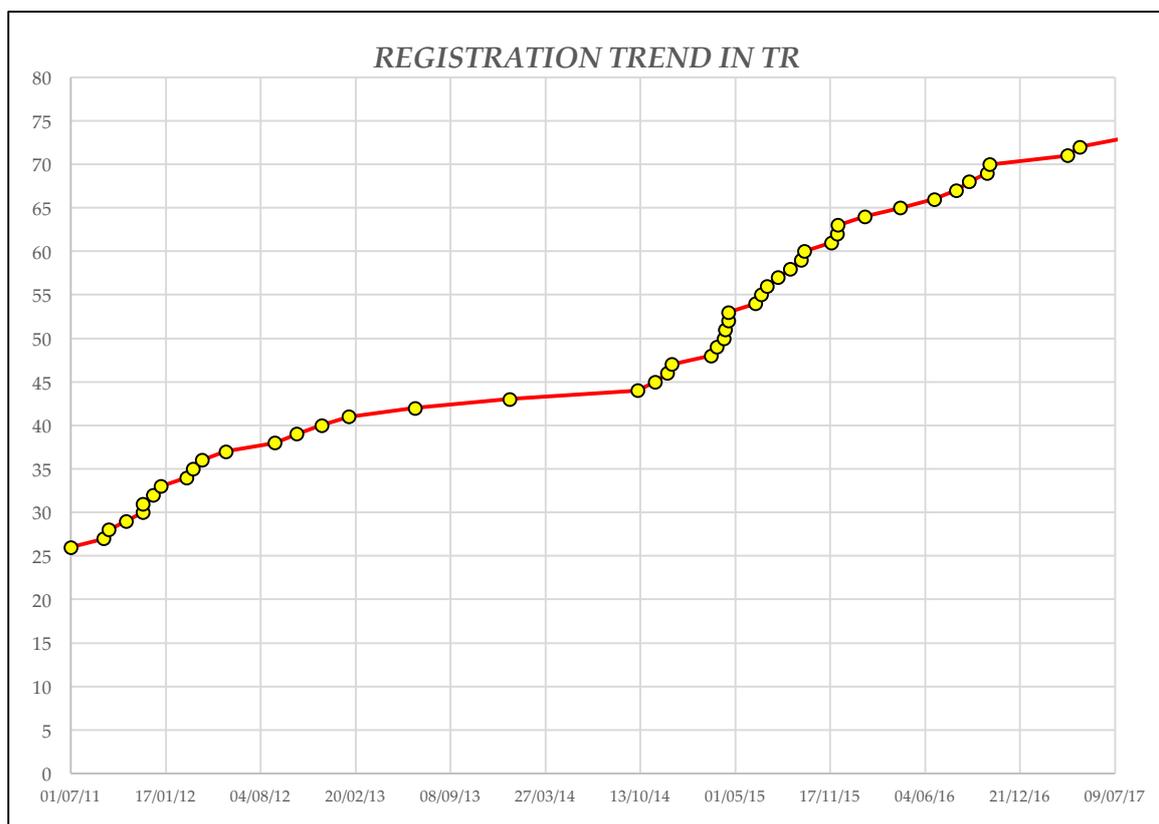


Figure 18 Registration Trend in TR ; Source: data from TR

with a progressive decrease of the registration with the passing years. A change of the trend is observable at the end of 2014 and this is not a coincidence, because since the end of 2014, registration became mandatory for anyone who wants to meet a Commissioners. Since this decision by the EU institutions was taken, number of registrations are grown from 43 to 73

in 3 years, demonstrate a good effectiveness of the decision and the importance of meet the Commissioners for lobby groups.

5.2.3.3 Presence of an office in Brussels

As already studied by previous literature (e.g. (Coen & Richardson, 2009), (Bernhagen & Mitchell, 2013), (Vannoni, 2013), (Hermansson, 2016)) many organizations that decided to be political active in the European Union opted by the establishment of a representative office in Brussels, or, especially in the case of European association, to establish the headquarters in Brussels. This strategy enables the enlargement of political networks and permit to lobby groups, to follow the European policy discussion from a closer perspective, making, in addition, contacts with members of the European institutions easier.

RESPONDENTS	N° Answers	Brussels Office
GSMA Europe (GSMA Europe)	11	Yes
EBU-UER	8	Yes
QUALCOMM Inc. (QCOM (NASDAQ))	7	Yes
Telefonica, S.A.	7	Yes
EMEA Satellite Operators Association (ESOA)	7	Yes
DIGITALEUROPE (DE)	7	Yes
TIM S.p.A. (TIM)	7	No
Ericsson	6	Yes
European Telecommunications Network Operators' Association (ETNO)	5	Yes
Samsung Electronics Europe	4	Yes
Deutsche Telekom (DT)	4	Yes
Nokia	4	Yes
Union Internationale des Chemins de Fer (UIC)	4	Yes
Community of European Railway and Infrastructure Companies (CER)	4	Yes
Broadcast Networks Europe (BNE)	4	Yes
EchoStar Mobile Limited (EML)	4	No
British Broadcasting Corporation (BBC)	4	No
RTE (RTE)	3	Yes
Orange	3	Yes
Intel Corporation	3	Yes
Huawei Technologies (Huawei)	3	Yes
Airbus Group N.V.	3	Yes
Verband Privater Rundfunk und Telemedien e.V. (VPRT)	3	Yes
Pearle*-Live Performance Europe (Performing Arts Employers Associations League Europe) (PEARLE*)	3	Yes
EUROPEAN RAIL INFRASTRUCTURE MANAGERS (EIM)	3	Yes
Association of European Radios (AER)	3	Yes
TDF	3	No
Dutch Securitisation Association (DSA)	3	No
Association of Professional Wireless Production Technologies (APWPT)	3	No
Nederlandse Belangenvereniging Draadloze A/V verbindingen PMSE (PMSE NL)	3	Yes

Table 15 Presence of Brussels office in Top respondents to RSPG consultations

Evidence of this practice can be find in the dataset: returning to the 'more active respondents' to RSPG consultation is possible to see that among 30 respondents, the 80% has a representative office or the headquarters in Brussels, and only 6 do not have it.

Looking at the entire dataset, the probability to find an organization with Brussels office is higher than 50%, confirming that this practice is diffused in EU policy environment.

5.2.3.4 FTE & Estimated Cost

Analysing this two variables, a premise must be done indeed, the data regarding the major part of the big companies are affected by systematic errors. The data declared on the TR regarding cost and human resources deployed, are referred to the entire lobbying activities that an organization has done, not only the activities relates to radio spectrum policy.

The resulting data are over-estimated because they include the information of lobbying activities at every level and in all business sectors of the organizations.

By the way, some brief observations can be done. Looking at the FTE data, it's possible to say that lobbying activities are part of working routine of the organizations, indeed on average they have more than 3 resources dedicated to lobbying.

Looking at the cost of lobbying activities it is not so useful because as expected, the difference from minimum (5K€) and the maximum (5M€) is too big to derive some useful outcomes. The standard deviation data confirm that the range of value that this variable can reach is really big.

5.2.3.5 Number of Meetings with Commissioners

The last variables that the study takes in consideration, is the number of meetings held with a Commissioners by a lobby group. This represent a strong practice of direct lobbying. The only limitation, regarding this type of data is that only since 2014, Commissioners and organizations are obliged to declare in a transparent way, every time they organize a meeting and the topic of the discussion. Due to these motivations, the time span is narrower respect the other data, but unlike data on costs and FTE, these refer only to the specific area of radio spectrum policy.

CONSULTATION RESPONDENTS	Meetings with Commissioners	N answers	Brussels Office
GSMA Europe (GSMA Europe)	6	11	Yes
Ericsson	6	3	Yes
Orange	5	3	Yes
European Telecommunications Network Operators' Association (ETNO)	4	5	Yes
TDF	4	3	No
Telia Company AB	4	1	Yes
DIGITALEUROPE (DE)	3	7	Yes
Deutsche Telekom (DT)	3	4	Yes
MEDIASET S.p.A.	3	2	Yes
EBU-UER	2	8	Yes
Telefonica, S.A.	2	7	Yes
QUALCOMM Inc. (QCOM (NASDAQ))	2	7	No
EMEA Satellite Operators Association (ESOA)	2	7	Yes
TIM S.p.A. (TIM)	2	7	No
Broadcast Networks Europe (BNE)	2	4	Yes
British Broadcasting Corporation (BBC)	2	4	No
Association of European Radios (AER)	2	3	Yes
Pearle*-Live Performance Europe (Performing Arts Employers Associations League Europe) (PEARLE*)	2	3	Yes
Association of Professional Wireless Production Technologies (APWPT)	2	3	No
Cisco Systems Inc. (Cisco)	2	2	Yes
Vodafone Belgium SA (VBSA)	2	1	Yes
Eutelsat S.A (ETL)	2	1	No
RAI RADIOTELEVISIONE ITALIANA SpA (RAI)	2	1	Yes
Zweites Deutsches Fernsehen (ZDF)	1	3	Yes
DNA Oyj (DNA)	1	2	No
Sennheiser electronic (Sennheiser)	1	1	No

Table 16 Number of Meetings with Commissioners

The table above, represent the 26 organizations in the TR that have met a Commissioner at least once, since the registration has become mandatory to meet them.

Together with this data also the information about number of answers to consultations and presence of an office in Brussels are presented.

It's interesting to see how different organizations adopt different strategies, deciding to have different combination of this variables: for example, GSMA Europe is the most involved association both in meetings with Commissioners and consultation process and has established an office in Brussels; Telia Company AB has a good number of meetings with institution and has its own Brussels office but has participated only once in RSPG's consultations; in the end TIM Spa has a considerable number of answers to the consultations but not many meetings with the Commissioners and no Brussels office.

This outcome confirms that there is not only a way to lobby the institutions and try to access to the policy making process, every actor decides to participate in this process with its own strategy influenced by its availability of resources and decisions.

<i>ALL RESPONDENTS</i>	<i>MEAN</i>
MEETING WITH COMMISSIONERS	0,95
NUMBER OF ANSWERS	2,02
OFFICE IN BRUSSELS	0,59

<i>AT LEAST 1 MEETING WITH THE COMMISSIONERS</i>	<i>MEAN</i>
MEETING WITH COMMISSIONERS	2,65
NUMBER OF ANSWERS	3,96
OFFICE IN BRUSSELS	0,69

Table 17 Comparison between all registered respondents and respondents with at least one meeting with Commissioners

Table 17, emphasize an interesting result from the data set: from the comparison between the entire dataset of respondents and a smaller sample composed only by registered organizations with at least one meeting, a positive correlation between the three variables could be found. On average, the organizations that have held at least one meeting with the commissioners answer almost twice as many times as the others in the consultations and have a 10% more chance of having an office in Brussels.

These empirical outcomes could be further tested with some statistical analysis.

To sum up, in this last part of the analysis, the research goes in-deep in the TR data, looking for some interesting results than could be useful to enlarge the analysis on lobbying activity in radio spectrum policy area. Some data concerning lobbying behaviours or practices have been analysed and the following observations can be underlined:

- Regarding the registration in the TR, is possible to see a correlation between the willingness to enroll by the lobby groups and the benefits that they gain from the registration;
- For what concern the establishment of a lobby organization office in Brussels, the data show a good propensity for this practice, especially from European organizations and big companies;
- No interesting result could be extrapolated from the data concerning the estimated cost of lobbying activities and the number of workers dedicated to lobbying;
- In the end, the information regarding the meetings with Commissioners have produced results that confirm the of this practice, also highlighting a positive correlation with the participation in public consultations and the presence of a Brussels office.

CHAPTER 6

CONCLUDING REMARKS

This final chapter concludes the master thesis by providing a summary of the research work and outlining opportunities for future research. The reader is encouraged to consider this thesis as a starting point which hints to several research paths to be further explored in the future.

6.1 Final Summary

The current work was conducted to study the phenomenon of lobbying in the EU regulatory framework for radio spectrum, with particular emphasis on the environment around the EC and the RSPG.

This thesis was structured around a main research question: *Who are the actors involved in lobbying activities in spectrum policy at EU level?*

In order to answer this question, the thesis was conceived to explore the topic of EU lobbying from three different perspectives: firstly, an overview of the main theoretical themes was carried out to give to the reader all the tools necessary to understand the analysis conducted; secondly, an interesting literature review on EU lobbying was conducted to inform the reader of the 'state of the art' of the research in this area, highlighting the fact that the phenomenon of EU lobbying ended up under the spotlight only in the last two decades; finally, a qualitative research type of analysis was adopted to explore the lobbying activity from an empirical point of view.

The empirical analysis was conducted in three stages. During the first stage, a dataset was built, using data gathered from RSPG's documents, and comparing the outcomes with Bouwen's theory of access. The analysis showed good fit between the theory and the empirical data collected, showing, as Bouwen theorized, that the main actors involved in the consultation process, interested in providing EU institutions with detailed technical advices, the so-called EK, are companies and European associations.

These two groups of actors are the most involved in this process, because of a mutual interest in exchanging information to implement better regulation: it is possible to define information as the currency of lobbying in the EU.

During the second stage of the empirical analysis, the dataset based on RSPG's documents was extended with the addition of more data regarding lobby groups gathered from the TR. The registration in the TR is one of the most important initiative promoted by the EU institutions, because transparency of all lobbying activities is a topic at the centre of policy debate. The fight against the widespread misunderstanding that sees lobbying as an illegal practice is still strong, pass from the capacity of the actors involved in this process to be clear and unambiguous in every activity carried out. Using the TR data, the analysis showed that, thanks to the incentives given by the EU institutions, there was a boost in registration to the TR starting from 2014, especially the most involved actors understood the benefits derived from being transparent. The promotion of transparency in the lobbying activities by the institutions and the willingness of the lobby groups to declare their activities, can trigger a social acceptance mechanism that can have a double positive effect: the creation of a better regulation system and the consolidation, and definitive acceptance, of lobbying activities in the EU policymaking process.

In the final part of the analysis, more attention was given to the most diffused behaviours or strategic choices, carried out by lobbyists to exert pressure on EU institutions, trying to outline some correlations between them and study how these activities, could influence the interactions between institutions and lobbyists.

The analysis showed some different 'behavioural pattern' that depends on proper strategic choices of the different actors. It is not easy to say which of these patterns give the best results and have more effect on institutions. Instead, it is possible to evaluate which of these is more used. The establishment of an office in Brussels, the participation in RSPG's consultation process and the organizations of meetings with Commissioners seem to be the most recurrent activities put in place from lobby groups in the radio spectrum policy area.

The complete understanding of lobbying dynamics that occurs in the policy-making process in the radio spectrum policy area could contribute to the creation of better regulated market, necessary and essential condition to achieve the final goal of the DSM.

6.2 Future statistical analysis

The collection of data from various sources has ensured the development of a data set that could be used for statistical analysis to further study the EU lobbying phenomenon. Although few empirical correlations between lobbyists' behaviours have been found, the main objective of the work was to provide a substantial descriptive analysis of the lobbying environment around the RSPG and the EC. The table below groups all the features and characteristics of lobby groups, discussed in this master thesis work and try to define them as a statistical variable.

STATISTICAL VARIABLE	DEFINITION
RespondentType	1= Company; 2=EU Association; 3=National Association; 4=NGO; 5=Academic; 6=EU member state; 7=Consultancy Firms; 8=EU Agency
Nanswers	Number of answers to RSPG consultations (n)
DualLobbying	1= if lobby organization is also member of an association; =0 otherwise
TRregistration	1= if lobby organization is registered in TR; =0 otherwise
EU	1=if organization head office is in EU; =0 otherwise
RegistrationDate	number of days from today and the registration date in the TR of a lobby group (days)
BrusselsOffice	1=if lobby groups has headquarters or an office based in Brussels; =0 otherwise
NPersonInvolved	Number of person involved in lobbying activities (n)
FTE	FTE of workers involved in lobbying activities (n)
EstimatedCost	Estimated cost of lobbying activities in one year (€)
NmeetingsCommissioners	Number of meetings with Commissioners (n)

Table 18 Variables for statistical analysis (in light blue data taken by TR)

Given the difficulty of quantifying the effort spent on lobbying by various actors or the effectiveness of lobbying activities, it might be difficult to develop a regression model capable of effectively describing this phenomenon. A first attempt was made during the realization of this thesis work but without success. The two main problems encountered were the difficulty in fixing a significantly observable dependent variable between those available, and secondarily, the dimension of the dataset which is too limited.

To be able to develop a good regression model more precise information and more data to enlarge the dataset would be necessary. A good way to improve the research could be, the use of some primary research sources such as interviews with lobby actors or EU institutions representatives, or submit questionnaires to participants in lobbying activity.

Other interesting developments for which this data could be used, could include the realization of model with the purpose of identifying some recurring behaviours by some groups of actors, or some common characteristics in carrying out lobbying activities; as well as statistical analysis such as cluster analysis or a factor analysis, could be useful for this type of research.

6.3 Opportunities for future research

After reading this master thesis work the hope is that reader's expectations have been met and some new questions on lobbying have been raised.

An additional hope is that the role of lobby groups in regulatory framework will be more explored in the future because, as already highlighted in this thesis work, the phenomenon of lobbying is still a topic unknown to most people, especially referred to the EU level.

However, the complexities of its mechanisms and the unknown areas of this phenomenon are still many, and from a research point of view, this can be an opportunity to carry out numerous new studies. In particular the aim of this final section is to propose some good starting points to next studies:

- *Investigate lobbying activities in the radio spectrum policy area on other levels of policy-making process:* this research focuses his attention on the access to EC through the RSPG consultations process, and in general with those activities aimed to influenced the institutions work at the beginning of policy cycle. Further interest could be dedicated to the other two institutions that works in the OLP process, the EP and the Council that are also the institutions that have legislative power. A comparison between the lobbying methodology on different level of policymaking process could be really interesting and could contribute to expanding the existing literature;
- *Perform the same type of analysis in another policy areas:* the radio spectrum policy area is a complex environment to study, but it is also a small portion of all the policy matters that EU institutions have to take in consideration. Applying the same research question to see who are the actors involved in different policy area could be a challenging fight for future studies;

- *Identify measures to improve the effectiveness of the TR:* the TR has provided a good quantity of data for this work, but some aspects must be improved. An interesting analysis could be performed to advise some changes in Code of Conduct and in general, to the rules for registration. More attention must be given to the quality and truthfulness of the data entered to ensure total reliability on TR data and consequently on registered groups. More considerations could be directed towards understanding the transparency issue, trying to investigate the debate between who asks for a mandatory register and stricter rules, and who thinks that self-regulation is the best way to follow.

These are just a part of the possible way to continue the path taken by this master thesis work, with the final goal to contributing to spread the knowledge about a phenomenon that cover an important role in EU policymaking process, but that has not been understand thoroughly.

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