

Mechanisms of policy diffusion in the telecommunications sector

Universal Service Obligation and Spectrum Management in Morocco, Egypt and Jordan

Submitted by Véronique Lisa Wavre to the University of Exeter as a PhD dissertation towards the degree of Doctor of Philosophy in Politics, January 2016

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Abstract

Since the advent of the millennium, a growing interest has arisen in information and communication technologies (ICT) given the potential to bridge the digital divide. ICT have had a central role to play in terms of economic, regulatory and political development. Telecommunications is used in this thesis as a sector case to study policy diffusion, which focuses on the movement of policies across borders and actors. This thesis answers the following research question: does policy diffusion take place in the telecommunications sector in the Middle East and North African (MENA) countries? This is answered using qualitative methods, such as expert interviews and the comparison of six cases, composed of two sectors of ICT; Universal Service Obligation (USO) and spectrum management, and of three countries; Morocco, Jordan and Egypt.

In case the research question is positively answered two further foci are central to the thesis. Firstly, the thesis explores the conditions leading to policy diffusion. The thesis argues that the conditions leading to policy diffusion are linked to different degrees of vulnerability of countries to external actors. This vulnerability is described through four variables, which reveals the levels of governance and market openness and economic and political interconnectedness of the adopting countries. Secondly, it scrutinizes the links between sector variables and mechanisms of diffusion. The argument of this part is that different combinations of these sector variables support the differentiation across the four traditional mechanisms of policy diffusion; learning, imitation, competition and coercion.

The main contributions of this thesis are both theoretical, to the literature of policy diffusion and empirical, regarding telecommunications regulation in three MENA countries. The thesis underlines the key role of government administrations as the main driver for policy change in MENA countries, compared to international pressures and market forces. Furthermore this thesis concludes that, in the telecommunications sector, transgovernmental channels are nowadays omnipresent in the phenomenon of policy diffusion and are thus not sufficient to disentangle mechanisms of diffusion. The thesis examines the additional factors of efficiency, economic interests and sanction capacity for explanatory power.

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Abbreviation and Acronyms

2G	Second Generation of mobile telecommunications technology
3G	Third Generation of mobile telecommunications technology
4G	Fourth Generation of mobile telecommunications technology
5G	Fifth Generation of mobile telecommunications technology
AGCOM	Authority for Communications Guarantees (Italy)
ANACOM	National Communications Authority (Portugal)
ANFR	French National Frequency Agency
ANRT	National Agency of Telecommunications Regulation (Morocco)
ARAGNET	Arab Regulators Network
ARCEP	Regulatory Authority for Electronic Communications and Postal Services (France)
ASMG	Arab Spectrum Management Group
BAKOM	Federal Office for Communications (Switzerland)
BCBS	Basel Committee on Banking Supervision
BEREC	Body of European Regulators for Electronic Communications
BRIC	Brazil, Russia, India and China
BTI	Bertelsmann Foundation Transformation Index
CDMA	Code division multiple access
CEE	Central and Eastern European Countries
CEO	Chief Executive Officer
CEPT	European Conference of Postal and Telecommunications Administrations
CERP	European Committee for postal Regulation
DCFTA	Deep and Comprehensive Free Trade Area
DG ECHO	Directorate General Humanitarian Aid and Civil Protection
DG DEVCO	Directorate General Development and Cooperation
DSM	Dispute Settlement Mechanism
DTTB	Digital terrestrial television broadcasting
EASA	European Aviation Safety Agency
EBRD	European Bank for Reconstruction and Development
EBU	European Broadcasting Union
EC	European Community
ECC	Electronic Communications Committee
EEAS	European External Action Service
EMERG	Euro-Mediterranean Regulators Group
EMFTA	Euro-Mediterranean Free Trade Area
ENP	European Neighbourhood Policy
ENPI	European Neighbourhood and Partnership Instrument
ETSI	European Telecommunications Standards Institute
EU	European Union
EUROSTAT	Statistical Office of the European Communities

FAO	Food and Agriculture Organization
FDI	Foreign Direct Investment
FDMA	Frequency Division Multiple Access
FRATEL	French-speaking Telecommunications Regulation Network
GATS	General Agreement on Trade in Services
GATT	General Agreement on Trade and Tariff
GBT	Group on Basic Telecommunications
GDP	Gross Domestic Product
GE06	Geneva 2006 Agreement
GHz	Gigahertz
GNI	Gross National Income
GSM	Global System for Mobile Communications
HACA	Audiovisual Regulatory Agency (Morocco)
HDI	Human Development Index
IAEA	International Atomic Energy Agency
ICAO	International Civil Aviation Organization
ICT	Information and Communications Technology
ICCPR	International Covenant on Civil and Political Rights
IMF	International Monetary Fund
IRG	Independent Regulators Group
IPO	Initial Public Offering
ISDN	Integrated Services Digital network
ITU	International Telecommunications Union
IT	Information Technology
JTC	Jordan Telecommunications Company
LTE	Long Term Evolution
MCIT	Ministry of Information and Communications Technology (Egypt)
MENA	Middle East and North African
MEDSTAT	Euro-Mediterranean statistical cooperation programme
MHz	Megahertz
MINCOM	Moroccan Ministry of Communication
MoA	Memorandum of Association
MOICT	Ministry of Communications and Information Technology (Jordan)
NA	Not Applicable
NATO	North Atlantic Treaty Organization
NATP	New Approaches to Telecommunications Policies
NGN	Next Generation Network
NGBT	Negotiating group on basic Telecommunications
NRA	National Regulatory Authorities
NTRA	National Telecommunications Regulatory Authority (Egypt)
OFCOM	Office of Communications (United Kingdom)
OFDMA	Orthogonal Frequency Division Multiple Access

ONA	Omnium Nord-African
OECD	Organisation for Economic Co-operation and Development
RIA	Regional Integration Agreement
RRB	Radio Regulation Board
SAF	Structural Adjustment Measures
SC-FDMA	Single-carrier Frequency Division Multiple Access
SNI	Moroccan National Investment Company (Ex-ONA)
SMIT	Studies in Media, Information and Telecommunication
TCC	The Telecommunications Corporation (Jordan)
TDMA	Time Division Multiple Access
TE	Telecom Egypt
TRC	Telecommunications Regulatory Commission (Jordan)
TV	Television
UHF	Ultra High Frequency
UK	United Kingdom
UNDP	United Nations Development Programme
UMTS	Universal Mobile Telecommunications System
US	United States
UAS	Universal Access & Service
USAID	United States Agency for International Development
USF	Universal Service Funds
USO	Universal Service Obligation
USSR	Union of Soviet Socialist Republics
VAT	Value Added Tax
VHF	Very High Frequency
VUB	Vrije Universiteit Brussels
WB	Washington Consensus
WCDMA	Wideband Code division multiple access
WCO	World Customs Organization framework of standards
WGI	Worldwide Governance Indicators
WITS	World Integrated Trade Solution
WRC	World Radiocommunications Conference
WSIS	World Summit on the Information Society
WTO	World Trade Organization

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1 CHAPTER 1 – Introduction

1.1 Introductory words

Increasingly, international regulatory governance has grown into a complex set of rules, actors and processes. Telecommunications regulations are no exception to this tendency. It is a sector where international regulation and cooperation has taken place intensively due to the cross-border characteristics of its technologies and uses. Actors involved in the process have grown in number, diversity and intensity, including governments, international organisations, transnational communities, the private sector and civil society (Raboy and Padovani, 2010:152, Bauer, 2010c). To account for this diversity in actors and channels of policy-making, the literature of policy diffusion is revealing. It proposes methods, tools and theories to frame policy-making across states and actors. In this thesis, however, the focus is set on the states which adopt policies, rather than the ones diffusing them, to account for strategies taking place at the domestic levels in interaction with external forces.

However, even if several authors acknowledge the value of policy diffusion to explain the increasingly intertwined policy-making practices, this has been mostly done on a conceptual and theoretical level and less indication exists so to conduct research empirically. This is notably the case regarding which variables are to be selected so to observe policy diffusion and analyse it systematically. For instance, authors debate the value of state and sector policies to disentangle different types of policy diffusion, but only a few researchers test such frameworks empirically. Framing and testing policy adoption to unravel strategies and types of diffusion is the aim of this thesis. Empirically, three countries of the MENA region and two policy fields of the telecommunications sector, USO and spectrum management are taken as case studies. The main research question of the thesis is: does policy adoption take place in the telecommunications sector in Jordan, Morocco and Egypt? Two subquestions are derived from it: under which conditions is a country expected to adopt a policy that originated in another country and how does this adoption take place?

The selected policy case is the telecommunications sector. It was chosen due to its cross-border characteristics, on an infrastructure and services level, but

also regarding the need to attract international investments and to adapt regulation so to keep up with worldwide technological advances. It is also a sector where potential profits are high, both for the governments and the private sectors. This sector, showing cross-border characteristics, marked profit potential and high needs in investments is quite specific and carry with it intertwined international interests and competition. The need to look at other countries' regulatory systems seems inevitable. A comparison of two subsectors within the telecommunications field, allows for a variety of diffusion strategies to be analysed. The first policy subsector is USO, which refers to the provision of affordable basic telecommunications services to every resident of a country. The second subsector is spectrum management referring to the regulation, allocation and use of spectrum. They both present different characteristics, in terms of scope and intertwined economic and political interests.

The three countries studied in this paper are Morocco, Jordan and Egypt. These country cases have been chosen for their similarities in economic and technological development. In fact, these three countries have a little technological and economic development delay, in comparison to other more advanced countries and models, such as the EU regulations in the sector. This suggests that these countries are constantly in search for new policy models to test and apply to their context. In addition, these countries represent a very interesting market, in particular for foreign mobile operators, due to the marked reliance on mobile telephony of a large and young population. This is promising in terms of policy diffusion and more specifically policy adoption. It is also promising to observe entangled and sometimes competing interests in the process of policy-making. At the same time, these countries represent different degrees of vulnerability to external pressures, which allows for various levels of policy adoption to be at play.

This introductory part is structured as follows. Firstly, an overview of the policy problem is given. Secondly, the literature of policy diffusion is presented, with a focus on where this thesis proposes a contribution. Thirdly, the theoretical and conceptual framework is addressed briefly. It builds on the literature of policy diffusion and more broadly on policy-making to best set the framework of this project. In this part, the research question and main hypotheses are fully outlined. Fourthly, the country and sector case selections and assumptions are

introduced. It is followed by the rationale framing this thesis. Finally, the organisation of the seven chapters of this thesis is given.

1.2 Policy Problem

The selected countries of this thesis, Morocco, Jordan and Egypt are all part of the MENA area. They are bound by several similar characteristics such as lower levels of technological and economic developments than more developed countries in the field. In sectors such as telecommunications, where both investments and innovation are key for development, states such as Morocco, Jordan and Egypt, are expected to look for regulatory models externally to improve the domestic context. The telecommunications sector is defined by several interesting characteristics, which need to be taken into consideration when discussing policy diffusion. It is a sector with high potential for profits, as both the government and the private sector may gain from it. The government is typically the owner of spectrum and can gain substantially from its sale, through auction for instance. Private companies also have a notable interest in the field, as most citizens around the world are now consumers of phone services, representing an immense market with vast potential gains. Such sectors are typically regulated by international associations or bodies intending to order both the worldwide standards to allow the service to be functional and balance the many interests in the field. Similar sectors, presenting intrinsic cross-border characteristics and high potential for profit, include international aviation, where bodies such as the International Civil Aviation Organization (ICAO), based in Montreal, Canada or the European Aviation Safety Agency (EASA), a European Union's (EU) agency, based in Cologne, in Germany, regulate the field.

Several key regional and international actors are present in the three case study countries of this thesis. Historically, the Gulf countries are very similar both due to their geographical proximity and their interlinked economic systems. The Gulf oil industry is a particularly unambiguous reason for these interlinkages. Labour forces of non-oil MENA countries are closely involved in the Gulf countries and their work remittances return to their home countries, as part of the Gross Domestic Product (GDP). Oil-rich Gulf countries have also been economically very close to the MENA countries due to their shares in loans and aid grants across decades. Another key actor is the United States (US), with a strategic

role immersed both in oil-related geopolitical issues and as a key member of the Middle East peace process. Finally, the EU, with which the area has had everlasting ties on a variety of levels, from a colonial past to free trade agreements. The close relationship between the EU and the Mediterranean countries originates to past history and is discussed in chapter 5 (Sections 5.2 and 5.3). In the telecommunications sector, the European impact is more marked than that of other regional actors. Several reasons may account for this. One of the principal reasons is the fact that countries in the Mediterranean area share similar telecommunications standards. This is broadly linked to the fact that European and MENA countries are all part of the same International Telecommunications Union (ITU) area 'Region 1' sharing the same set of spectrum. More analysis regarding standards is given in Section 6.2, Framework Proposition 1. In such cases, countries have had to harmonise standards among themselves to facilitate the sharing of equipment and benefit the markets of scale.

The relationship between both sides has changed drastically in nature since the colonial times¹. Traces of this relationship were perceptible during the field research. Close links were observed between Morocco and France and while the relationship between the United Kingdom (UK) and Egypt and Jordan, was less obvious, it remains influential. Several experts notably mention the attention to the French and British systems, let alone because of shared languages in policy-making (Expert MO3, 2014). In the telecommunications sector, the role of the EU in setting the standards has been quite influential regionally, due to several reasons. One of them is that the EU has had to develop standards and harmonise the telecommunications sector to bridge the multiple factions across member states from the 1980s. The division of the EU market and the lack of competitiveness were seen as an impediment to the realisation of wider and more affordable telecommunications services. In this

¹ The British occupation of Egypt started in 1882. Morocco became a French protectorate in 1912 and the League of Nations gave a British mandate over Transjordan in 1922. The mandate of the League of Nations officially ended in 1946 and Jordan became independent. Morocco acquired independence from France in 1956 and Egypt from British occupation in 1952 (AYUBI, N. 1995. *Over-stating the Arab State; Politics and Society in the Middle East*, London, New York, I.B. Tauris.)

case, the European Commission (EC) emerged as a key actor. This shift in power was accompanied with a strengthening of the role of National Regulatory Authorities (NRAs) to assist and support the EC's regulatory decisions (Michalis, 2007:155;200). The strengthening of NRAs in the field of telecommunications is also observable in the three countries of this thesis and is one of the key foci of the theoretical and conceptual framework.

The advent of the EC as a key regulatory actor had an impact beyond the EU member states. Rodine-Hardy states that the EU not only became a drive for its member and accession states but also in international arenas of the World Trade Organization (WTO) and the ITU (2013:46). For MENA countries the EC model both represented a case where a standardised policy model was readily available and of which application could be observed across all member states. It also showed regulatory solutions to accompany parallel transformations of the sector from state-owned monopolies to the insertion of competition. For instance, Bauer argues that at the time of reforms in Southern countries, it was often the European model which was followed, notably because of a comparable history of state ownership (2010b:9). Rodine-Hardy also underlines the focal point of EU developments, particularly for former European colonies or countries trading heavily with the EU (2013:46). In fact, since the 1980s, the EU and the Southern Mediterranean countries have dramatically increased their interest towards one another in the telecommunications sector. Convergence of regulations, guidelines, principles and technologies has been augmented greatly. This justifies in this thesis the particular focus on the relationship between the EU and MENA countries.

It is understandable that MENA countries have followed the EC model or the models of individual member states, which were based on EC regulations in the 1980s onwards, as it represents the most discernible model of a main political and trade partner. However, what is less obvious is the extent to which the European model can be applied to MENA countries considering the diverging market specificities of both areas. Hence, while the EU model is built on fixed telephony infrastructure in relatively small territories with concentrated competition, MENA countries have experienced a rise in mobile telephony in bigger territories, often less easily accessible with no available fixed infrastructure. In addition, a wide younger population is almost exclusively

interested in mobile telephony. In such a context, it is legitimate to wonder whether the EU regulatory influence is still as strong in MENA countries and to ask why that is the case.

1.3 Addressing the literature

In an increasingly more complex and regularised world, policies and regulations travel at several levels, such as municipalities, counties, states or countries, regarding a variety of subjects and including a large range of actors. Some authors stress the role of globalisation in increasing the significance of regulatory movements particularly since governments and international organisations have become increasingly proactive in promoting harmonisation of policies (Stone, 1999, Bennett, 1991). However, not all studies discussing the characteristics of policy movements refer to the same terminologies. The policy diffusion literature widely draws on lesson-drawing, constructivism², theories of rationality and interest-based decision-making. In fact, policy diffusion, lesson-drawing, isomorphism and policy transfers are only some of the many schools of thought dealing with cross-cutting dynamics of convergence. These theories have brought new theoretical insights to international relations and public policy analysis. As Stone underlines, it has somehow bridged the gap across disciplines (1999:53). However, the concepts have been stretched, defined and redefined and scholars' meticulous exercises of typology have increasingly taken place (Dunlop and Radaelli, 2012, Evans, 2006, Marsh and Sharman, 2009, Newmark, 2002). Delimiting what is policy diffusion and what it is not, is central to this thesis. It is generally a contentious issue of this literature, with authors criticising the validity of policy diffusion as a separate literature (James and Lodge, 2003).

The development of policy diffusion as an independent literature body originates with authors studying policy innovation in the 1960s and 1970s, such as Mohr

² Constructivism focuses on the inter-subjectivity of meaning, where both the ends and the means are social constructs (SIMMONS, B., DOBBIN, F. & GARRETT, G. 2008b. Introduction: the diffusion of liberalization. *In*: SIMMONS, B., DOBBIN, F. & GARRETT, G. (eds.) *The Global Diffusion of Markets and Democracy*. Cambridge: Cambridge University Press.) This is linked to Max Weber's idea that social action is defined by the perception of the actors themselves and must be understood as the product of a social context (WEBER, M. 1978. Basic Sociological Terms. *In*: WEBER, M. (ed.) *Economy and Society*. Berkeley: University of California Press.)

(1969), Walker (1969) or Gray (1973). Eyestone proposed a study on policy diffusion and innovation (1977). He was followed by several studies mixing designs on innovation and diffusion, with a focus on federal states (Savage, 1985) or the development of methods to address policy diffusion (Klingman, 1980, Berry and Berry, 1990). The definition of policy diffusion, as used in this research is largely reflecting previous studies on innovation. For instance, Walker defines an innovation as a program or policy, which is new to the states adopting it, no matter how old the program is or how many other states have adopted it (1969:881). The novelty of a diffused programme is key to the study of policy diffusion. The definition has however developed to still encompass the notion of innovation but to also address the increasing number of actors involved in policy making, as well as the increasing objects of diffusion. Simmons et al. propose a broad definition of policy diffusion. They mention that policy diffusion occurs “when government policy decisions in a given country are systematically conditioned by prior policy choices made in other countries (sometimes mediated by the behaviour of international organizations or private actors and organizations)” (2008b:7). This definition allows for a broader application of policy diffusion theories, adequate to the research design of this thesis. However, it also carries a key dilemma, which is the identification of policy diffusion as a discernible form of policy making.

Hence, several authors argue that policy diffusion shall not be confused with other forums of policy making and shall not be explained otherwise (Evans, 2006, Starke, 2013, Bennett, 1997, Stone, 1999). Other forms of policy-making are more clearly outlined in the second chapter of this thesis focusing on the conceptual and theoretical framework of this thesis (Section 2.2). For instance, as James and Lodge argue “[i]t is hard to think of any form of rational policy-making that does not, in some way, involve using knowledge about policies in another time or place to draw positive or negative lessons” (2003:181). As such, in the literature of policy diffusion, several authors have intended to pin down the very specificities of diffusion as a distinguishable form of policy making. Evans states that “[t]he study of policy transfer can only be distinctive from the analysis of normal forms of policy-making if it focuses on the remarkable movement of ideas between systems of governance in different countries” (2006:487). It is understandable from this argument that one of the key aspects

of policy diffusion is the interaction between two models, with the diffused model being new to the country adopting it. Clarifying methodological tools to systematically observe policy diffusion, and specifically policy adoption, is the aim of the first part of the theoretical and conceptual framework of this thesis.

Progressively, authors of policy diffusion have moved from the exercise of identifying policy diffusion to the study of the mechanisms of policy diffusion (Starke, 2013). This shift is notably explained by the methodological difficulties, discussed earlier, to identify the process in the first place (Bennett and Howlett, 1992:290, Starke, 2013). This progression of interest from the observation of policy diffusion to the study of mechanisms of diffusion is observed in this thesis as well. The last focus in this thesis is set on four traditional mechanisms of diffusion, learning, imitation, economic competition and coercion. Coercion is included as a mechanism, even if it does not reflect a voluntary act of the adopting country as do the other three mechanisms, as it may also lead to the adoption of policies (Shipan and Volden, 2008, Simmons et al., 2008a, Rogers, 2003). The first mechanism, learning supposes that decision-makers in one country observe policy adoption, implementation and impact in another country and decide whether to apply it domestically or not (Shipan and Volden, 2008:841). The second mechanism, imitation diverges from learning, as the policy-maker is not interested in learning from an action, but in copying a perceived leader (Dobbin et al., 2007:450). Economic competition is defined by the fight over scarce resources, with policy-makers adopting certain programmes for fear of economic loss in case they do not adopt them (Meseguer and Gilardi, 2009:530). Coercion is the result of an imposed model by a dominating actor. It can take place by physical means, the manipulation of economic costs or benefits or the monopolisation of information (Dobbin et al., 2007:454). Conceptualising and disentangling the four mechanisms of diffusion are the focus of the third and last part of the theoretical and conceptual framework of this thesis and is discussed in the last empirical chapter (Chapter 6).

While policy diffusion literature has proposed a large number of theoretical accounts to define the theory, tools to implement the systematic empirical application of policy diffusion have been weak. Several studies exist on objects being diffused (Dolowitz and Marsh, 1996, Karch, 2007), the channels through

which policies diffuse (Greenhalgh et al., 2004, Hall, 1993) and conducive properties to policy diffusion (Evans, 2006, Greenhalgh et al., 2004, Rogers, 2003). Several authors have addressed the role of the domestic context and have identified independent variables explaining the likelihood of policies being diffused (Newmark, 2002, Evans and Davies, 1999, Rodine-Hardy, 2013, Weyland, 2006). While all these studies are relevant to this thesis as they provide the theoretical grounding to the conceptual framework, they do not present systematic and practical examples of how to use policy diffusion literature in real case scenarios. The lack of systematic empirical application is particularly obvious in the case of mechanisms of diffusion and conditions leading to policy diffusion. The necessity to bridge the gap between theory and practice is essential if one wants to use the full potential of policy diffusion to explain cases of policy adoption.

This thesis intends to participate in bridging the gaps currently visible in policy diffusion literature. Its contribution can be seen on several aspects. It firstly identifies and clarifies methodological tools to observe policy diffusion empirically. This is the aim of the first theoretical and conceptual part and is discussed in the context of the field research in the first empirical chapter (chapter 4). This thesis then builds on conditions leading to policy diffusion, based on the vulnerability of adopting countries to external models. This vulnerability addresses both the openness to external models and the interaction between the diffused and the adopted model. This is the focus of the second part of the theoretical and conceptual chapter and the second empirical chapter (chapter 5). Finally, this thesis proposes an understanding of the links between sector variables, and the environment and pressures under which policy-making is conducted and the mechanisms of diffusion. This is the focus of the third part of the theoretical and conceptual framework and of the third and last empirical chapter (chapter 6).

1.4 Research question, conceptualisation and hypotheses

The main research question of the thesis is: does policy adoption take place in Egypt, Jordan and Morocco in the telecommunications sector? Building on this question, the thesis has two foci. The first one researches the conditions under which countries engage in policy adoption. The subquestion to be answered is:

under which conditions is a country expected to adopt a policy which originated in another country. The second one relates to the mechanisms of diffusion and the combination of sector variables that shed light on to such mechanisms. The subquestion to be answered is: how does this adoption take place? The dependent variable is defined as the adoption of policies according to the four mechanisms: learning, imitation, economic competition and coercion. The independent variables, which aim to explain the outcome of the dependent variables, correspond to four state and five sector variables. The thesis argues that state variables shed light on the conditions leading to policy diffusion, whereas different combinations of the sector variables allow for differentiation across the four mechanisms of diffusion.

The selected timeline for this thesis starts with the major reviews of the telecommunications laws of Morocco, Jordan and Egypt, in the late 1990s and beginning of 2000s. It ends with the developments in the field in April 2014, which is the date where most interviews in the three MENA countries were concluded. In Morocco, the main telecommunications law was reviewed in 1997 (Telecommunications law No.24-96). In Jordan, the law was reviewed in 1995 (Telecommunications law No.13). In Egypt, it took place in 2003 (Telecommunication Regulation Law No.10). Hence, this study does not focus on the processes surrounding the establishment of the 1997, 1995 and 2003 telecommunications laws respectively, but their developments since these frameworks were introduced up until 2014. More information regarding the country cases contextualisation is given in Chapter 5 (Section 5.2 and Section 5.3). In all three countries, USO and spectrum management provisions are included in the telecommunications laws. The focus is set on how these provisions have evolved since then.

In this thesis, policy diffusion is assumed to take place in the six case studies under review. However, this does not mean that variation does not take place. In agreement with Weyland, a focus on causal mechanisms on “positive cases” does not imply that there is no variance across cases. In fact, the selection of cases may capture different levels of variation including the diffusion or non-diffusion of the policies and differences among the cases of diffusion (2006:15-6). Variations in contexts and regulation is common in the telecommunications sector and authors such as Rodine-Hardy, have noted that if it can be assumed

that policy diffusion does take place in the telecommunications sector, this does not mean that no variation across countries takes place. She argues that “international organizations and international policy convergence leave room for substantial variation among the national cases” (2013:XVI). In the selected case studies, variance is expected in order to allow for various hypotheses to be addressed and analysed. It is notably the case regarding the Egyptian cases, which resulted in lower policy diffusion than the Moroccan and Jordanian ones.

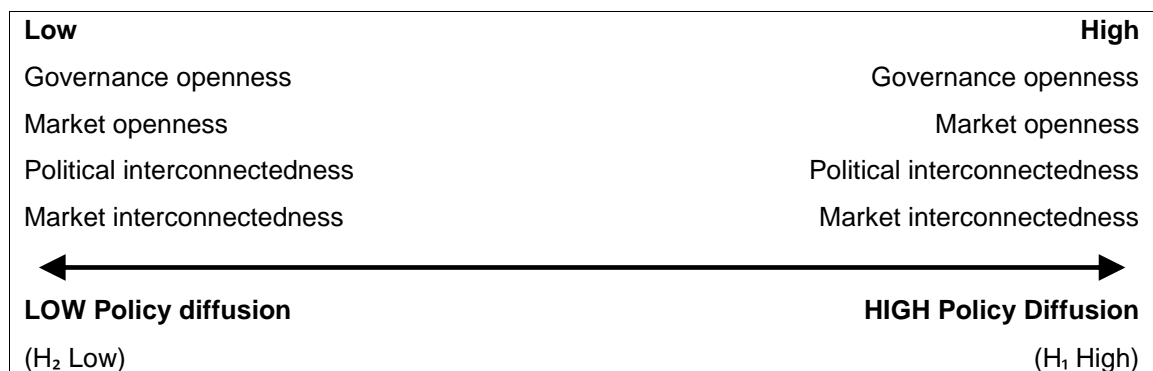
There are three different steps that create the conceptual and theoretical framework in this thesis. Each of them is briefly overviewed below. The detailed explanation of the framework is explained fully in the next chapter of this thesis (Chapter 2). The first step of this research is to observe if policy adoption has taken place or not. To do so, a conceptualisation was selected, derived from works of different authors, notably Beyers (2010) and Schimmelfennig and Sedelmeier (2004). In this conceptualisation, two aspects have to be taken into account, the product and the process. If the presence of both is confirmed, then the existence of policy adoption can be concluded. The product takes the form of a regulation, law, idea or programme that has been imported from another country. The comparison of the products of both the policy-making and the policy-taking countries is necessary to identify whether policy diffusion from one country to the other occurred. As a second step, the process sheds light on the context in which the product adoption has taken place. It is necessary to show that interaction has occurred between the policy-maker and policy-taker and that policy adoption has not taken place without the necessary links to policy diffusion. Both the product and process are necessary to establish policy diffusion and are best supported by qualitative methods, such as expert interviews.

The second step of this research is based on the conditions leading up to policy adoption. It is detailed in chapter 2 (Section 2.3). A selection of four state variables defines the degree of vulnerability of a state to external forces. This is based on the premise that policy adoption results in the necessity of adopting countries to look abroad for models. It is argued that the conditions leading to policy diffusion are related to different degrees of openness and interconnection with external actors. Therefore, the four properties identified in the thesis are: governance and market openness, political interconnectedness and market

interconnectedness. More precisely, governance openness refers to the degree to which a country is taking into account the rule of law and the work of regulatory authorities. It is measured in terms of effective regulatory governance, based on both the governance and regulatory effectiveness of a country. The second variable, market openness is defined as the reliance on national and international market forces to regulate the economy. The third variable, political interconnectedness is defined by the relation of dependency between two countries for political reasons. It is here related to the issue of foreign aid and the political motivations and consequences of giving and receiving foreign aid. The final variable on market interconnectedness refers to the degree of international trade interdependence, in particular in terms of the role of the private sector and specifically the role of foreign direct investments (FDI) in the economy of the adopting country. Together they form a continuum showing whether the policy diffusion is going to take place extensively (high) or not (low).

Figure 1 shows this continuum and outlines the following hypothesis (H₁ High): *The higher the degree of governance and market openness, political and market interconnectedness, the higher the probability of policy diffusion taking place.* As a consequence, the second hypothesis can be deduced (H₂ Low): *The lower the degree of governance and market openness, political and market interconnectedness, the lower the probability of policy diffusion taking place.*

Figure 1 Conditions leading to policy diffusion



Source: Author.

The third and last step of this research is linked to the mechanisms of diffusion and builds a framework linking five sector variables to the four mechanisms of

diffusion. The detailed definitions, conceptualisation and operationalisation of the mechanisms are given in Section 2.4.1. The main idea of this third and last step is that these four mechanisms can be defined into four different combinations of five sector variables. The analysis surrounds the role of NRAs in policy-making. The decision was taken to focus on NRAs, due to their role as delegates for Ministries in technological fields like telecommunications. The key role of NRAs in telecommunications regulations has been outlined by various authors and is confirmed both in European member states (Büthe and Mattli, 2013, Zhao, 2002, Christou and Simpson, 2014) and in MENA countries, as demonstrated clearly in the last empirical chapter of this thesis (chapter 6).

The five sector variables are divided into two different sets impacting the manner in which NRAs engage in policy-making. The first set refers to two types of environment in which NRAs conduct policy-making activities, international regulatory channels and transgovernmental and bilateral channels. International regulatory channels include the work of international organisations such as the ITU, the WTO or the World Bank in the field. All three countries of this research participate in these bodies. Transgovernmental and bilateral channels include cooperation between various NRAs and within NRAs groupings such as the EuroMediterranean regulatory group (EMERG). The second set of variables refers to the pressures that NRAs encounter and is divided in three variables. Efficiency is the first pressure variable and is defined by an attention to achieve performance. The absence of efficiency is linked to an attention towards the leaders instead of the efficiency of the policy itself. The second variable is economic interest. It is defined by the presence of potential profits in the sector. Finally, sanction capacity refers to the risk of suffering sanctions in case of non-adopting certain policies. The five variables are combined to the four mechanisms of diffusion following four framework propositions that are detailed in next chapter (Section 2.4.2). Table 1 shows the linkage between the sector variables and the mechanisms of diffusion.

Table 1 Sector variables defining mechanisms of diffusion

	Sector Environment		Sector Pressures		
	International regulatory channels	Transgovernmental collaboration	Efficiency	Economic Interest	Sanction capacity
Learning (H₃)	-	+	+	-	-
Imitation (H₄)	-	+	-	-	-
Competition (H₅)	+	-	+	+	-
Coercion (H₆)	+	-	-	+	+

Notes: Values: +: presence of variable is related to mechanism; -: absence of variable is related to mechanism.

Source: Author.

The first hypothesis corresponds to the learning mechanism. Learning supposes that decision-makers in one country observe policy adoption, implementation and impact in another country and decide whether to apply it domestically or not. Decision-makers put time and effort into learning from the best adaptable model. Learning includes the time-consuming process of engagement with other policy actors, with a focus on bridging a sectoral performance gap. The following hypothesis can be drawn (H₃ Learning): *Learning mechanisms occur in a context exempt of international regulatory channels, economic interest and sanction capacity, where transgovernmental collaboration is used with the objective of efficiency enhancement.*

The second hypothesis relates to the mechanism of imitation. Imitation refers to the focus of policy-makers on copying the other. It differs from the idea of learning, as the adopting country is not interested in learning from the *action*, but is rather directed towards imitating the perceived leading *actor* itself. In such cases, the diffused policy is not linked to specific incentives or to specific needs to improve a policy, but it corresponds to the idea, that adopting a specific regulation is the most appropriate action to take. The following hypothesis can be drawn (H₄ Imitation): *Imitation mechanisms occur in a context exempt of international regulatory channels, economic interest and sanction capacity, where transgovernmental collaboration is used with the objective to reach conformity with the perceived leaders in the field (absence of efficiency variable).*

The third hypothesis relates to the mechanism of competition. It was mentioned earlier that competition can be understood as a fight over scarce resources, also, for example, in the sense of acquiring direct loans or contracts. Enhancing the performance of the sector is however linked to economic interests. For instance, economic competition can be inferred where adopted policies satisfy the main investors. The following hypothesis can be drawn (H₅ Competition): *Economic competition mechanisms occur in a context exempt of sanction capacity, where international regulatory channels and not transgovernmental ones, are used with the objective to satisfy economic interests and reach efficiency.*

The fourth and last hypothesis concerns the mechanism of coercion. It can take place in various forms, levels and actors, representing a way to enforce convergence in the absence of autonomous decision-making of the adopting state. Physical means or the manipulation of economic costs and benefits can equally become coercive. In this case, it is observed that the adopted laws satisfy the third country and not the adopter. The following hypothesis can be drawn (H₆ Coercion): *Coercion mechanisms occur in context of economic interest, leadership and sanction capacity, where international regulatory channels and not transgovernmental ones, are used principally and possess the capacity to impose sanctions.*

1.5 Case selection & assumptions

1.5.1 Country-case selection & assumptions

According to Karch, innovation can spread in diverse settings for example, from city to city, from state to state or from one country to another (2007:3). In this study, the focus is set on three countries, Morocco, Jordan and Egypt, which were selected for their similarities, such as cultural and social values, economic and technological development. Even if they are not of equal size, they present

similar economic development characteristics³. All three countries possess a similar specification, as middle-income economies, according to the Gross National Income (GNI) per capita. More precisely, Morocco and Egypt are lower middle-income economies and Jordan has become an upper middle-income economy since 2011⁴. Between 2005 and 2012 the yearly average of the Gross Domestic Product (GDP) corresponded to 5.1% in Egypt, 4.7% in Morocco and 5.2% in Jordan (ITU, 2014). All countries have experienced a sharp fall in GDP growth; since 2010 in Jordan and 2011 in Egypt and 2012 in Morocco, following the political turmoil in the region (World Bank, 2015a).

Politically, all three countries show characteristics of semi-authoritarian political regimes. Jordan and Morocco are monarchies and Egypt is now ruled by a military regime. In fact, since 2011 Egypt has experienced several political upheavals and changes of government. This needs to be taken into account when addressing policy diffusion, in particular with regards to the autonomy of the NRA and the limited autonomy in implementing changes considering the political instability. The role of the political system in the development of policies in Morocco, Jordan and Egypt is assessed in relation to the quality of the governance in Chapter 5. The relationship between the political system and telecommunications more specifically is addressed in Chapter 6.

All three countries are linked to the EU through a variety of agreements, in particular the Barcelona Process, which started in 1995 and aims at creating a stable and prosperous Euro-Mediterranean area. All three countries are part of similar Euro-Med telecommunications regulatory projects, largely linked to the Barcelona programmes. They have participated in several intergovernmental and regional projects, notably the New Approach to Telecommunications programmes (NATP), which started in 2001. They are also all members of the regulatory group EMERG, which was set up by the EU and Mediterranean NRAs in 2008 through the funding of the NATP-III programme. Lastly, Jordan and Egypt took part in telecommunications twinning programmes with European

³ In 2014, Egypt's total population amounted to 83.4mio. Morocco's total population amount to 33.49mio and Jordan's total population amounted to 7mio. (WORLD BANK. 2015a. *Data* [Online]. Available: <http://data.worldbank.org/> [Accessed Nov 20 2015].)

⁴ Lower-middle-income and upper-middle-income economies are separated at a GNI per capita of \$4,125. Ibid.

countries (from 2008 to 2010 in Egypt and from 2011 to 2013 in Jordan), which are instruments of institution building created around EU policy objectives. The similar membership of all three countries to these policy-making fora makes it interesting to compare, and explain why some are more influential than others. The different scopes and influence in policy-making of the above mentioned agents and programmes are clearly discussed in the third empirical chapter focussing on various policy-making fora (chapter 6).

The cooperation between the EU and Egypt is less advanced than with both Jordan and Morocco. Jordan and Morocco were granted the EU advanced cooperation status in October 2008 for Morocco and in October 2010 for Jordan. This status formally recognises efforts to come closer to the EU in both regulatory and trade sectors and reinforces bilateral relationship between each country and the EU. The status formalises, according to the European institutions, the ambitions for political, economic and social changes (European Council, 2013, European Commission, 2014). Table 2 shows a selection of comparative indicators. It focuses on trade-related indicators. The GDP per capita shows how similar all three countries are to one another. All three are middle-income economies. The next indicator is the most interesting as it shows the importance of trade within the economy of a country. It shows clearly that Jordan relies on trade more than the two other countries, with a value showing a deficit, as Jordan imports drastically more than it exports. The specific case of Jordan is explained in detail in Chapter 5 (Sections 5.2 and 5.3.2).

The Egyptian case is different, representing the country with the lower trade ratio in percent of GDP, showing a greater capacity to export. The next indicator shows trade in services including communications services as a percentage of GDP. It shows that Jordan relies on trade in services the most followed by Morocco and Egypt. Finally, the last indicator shows the top three trade partners for each country. It shows that trade with the EU-28 is central to each of the selected country-cases and in particular to Morocco, where more than half the total trade is done with the EU-28 partners, followed by Egypt with 31.4% and Jordan with 15.5%. The US is also one of the top three trading partners for all three countries, with China and Saudi-Arabia following closely.

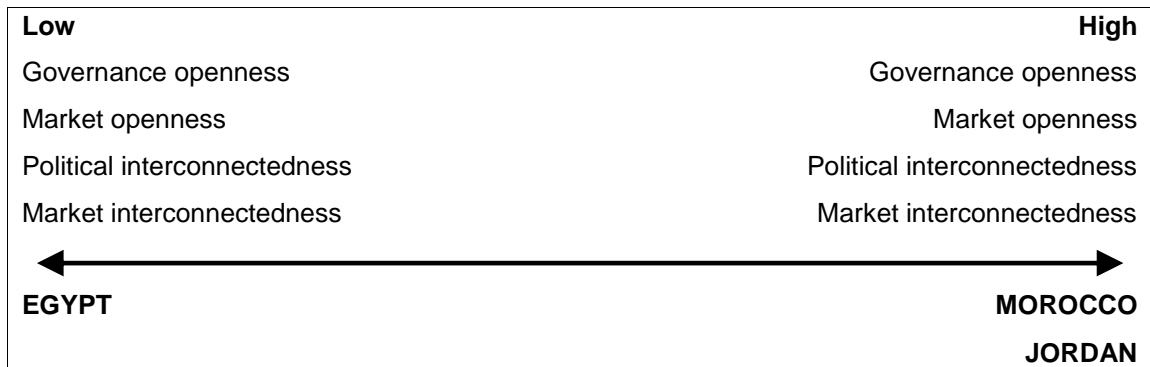
Table 2 Selection of comparative indicators

	GDP per capita (current US\$) (2013)	Trade (% of GDP) (2012)	Trade in Services (% of GDP) (2012)	Top 3 partners (% of Total Trade) (2014)*	
Morocco	3,108.64	86.5	24.4	1. EU-28	55.2
				2. US	5.9
				3. China	5.4
Jordan	5,214.19	120.5	32.9	1. Saudi Arabia	17.7
				2. EU-28	15.5
				3. US	8.5
Egypt	3,314.4	43.7	14.4	1. EU-28	31.4
				2. China	8.4
				3. US	6.5

Source: Author. Based upon World Bank statistics (World Bank, 2015b, World Bank, 2015c, World Bank, 2015d). *Based on Eurostat statistics (Eurostat, 2015c, Eurostat, 2015b, Eurostat, 2015a).

The main observation based on Table 2 is the trade balances in each country, with different reliance on imports relative to exports. Trade percent in relation to GDP is high in Jordan, medium in Morocco and low in Egypt. This is notably linked to the capacity of each country to produce and sustain its own economy domestically, instead of relying on external sources. This is directly related to the conceptual and theoretical framework of this thesis and relates to the state variable adequately. Figure 2 illustrates the relationship between reliance on external sources and actors for the country's domestic development or a rather autonomous development relying on internal sources of production. In this context, this thesis argues that Egypt is likely to correspond to lower degrees of external vulnerability, while Jordan and Morocco are likely to correspond to higher degrees of external vulnerability.

Figure 2 Country-cases assumptions



Source: Author.

This reliance on external versus domestic sources of development is also observable in the context of telecommunications, where each country has had a distinct development strategy in the field. Egypt represents a case study with a different telecommunications development of Morocco and Jordan. Telecommunications in Egypt have historically been used by the government to establish supremacy and spread Egyptian leadership in the Arab world. For instance, Abdulla argues that in 1952, when Egypt gained its independence from the British occupation, the radio became nationalised. From that moment, the radio became the official voice of government, as a propaganda device, with Nasser using the station strategically, helping nations gain independence and serving other nationalist causes (2007:6-7). Egypt soon established itself as a leader in its use of communications technologies. Following the radio, television and cinema soon occupied all Egyptian public spaces. Abdulla argues that Cairo soon became the Hollywood of the Middle East, with a leading and highly sophisticated radio, TV and Motion Picture producer in the Arab World (2007:8-9). In fact, several authors confirm that Egypt has been a "media hub" in the Middle East for many years (Guaaybess, 2011:23, Boyd, 1999). The cases of Jordan and Morocco are considerably different and development of the telecommunications started in the late 1990s. The telecommunications contexts of the three country cases are discussed in detail in Chapter 5 (Sections 5.2 and 5.3).

In conclusion, Egypt presents a country case with a stronger focus and capacity in autonomous development rather than Jordan and Morocco. Following the argument of this thesis, the three case studies can be divided into two different

scenarios. Morocco and Jordan have had a closer linkage to the EU and have developed with a closer relationship to external regulatory and economic actors. Egypt instead has shown a will as an independent economic and regulatory force. This defines the country assumptions as follows. On one side, Morocco and Jordan are more likely to adopt policies that have originated elsewhere due to their closer vulnerability to external actors, particularly the EU. They correspond to the first hypothesis (H_1 High), which expects that the higher the degree of governance and market openness, political and market interconnectedness, the higher the probability of policy diffusion taking place. In contrast, Egypt is less likely to adopt policies originated elsewhere. It corresponds to the second hypothesis (H_2 Low), which expects that the lower the degree of governance and market openness, political and market interconnectedness, the lower the probability of policy diffusion taking place.

1.5.2 Sector selection & assumption

Telecommunications is the sector chosen for analysis in this thesis. More precisely, two subsectors were selected, USO and spectrum management. It is necessary as a first step to define key characteristics of the telecommunications sector. The WTO proposes several adequate descriptions of the sector, which are used in this thesis. From a purely technological view, the annex on telecommunications defines the sector as the “transmission and reception of signals by any electromagnetic means” (WTO, 1995b:art.3(a)). This is a broad definition, which allows for many different forms and technologies to be included. It is apparent from that definition that the telecommunications sector is bound to sophisticated expertise and requires equally high levels of know-how for its development. This characteristic is important to take into account when studying policy diffusion. In fact, as the field is very sophisticated, it becomes apparent that citizens or the public are less involved in policy change. This is even more defined in semi-authoritarian countries of MENA region, where citizens’ involvement in policy-making is less observable. These levels of technology can be compared to sectors such as bio-technologies, artificial intelligence or nuclear physics regulations where notable levels of education or experience need to be achieved before participation in the policy making process is possible.

The dynamic nature of the telecommunications sector is also linked to its sophistication. Telecommunications are bound to technological development, thus decisions have to be taken regularly so to enhance the regulatory context of the field. The impact of dynamic sectors on policy diffusion was already perceived by Mohr who addressed the issue of evolving environments, stating that policy diffusion occurs when an environment is rapidly changing, including market conditions, technological changes, clientele needs and demands and labour market (1969:112). In such fields, policy changes take place regularly and observing the development of these policies and programmes is the sources of much research potential. Even if technology may not be the main and certainly not the only driver for policy change in the sector, it cannot be ignored and it is discussed closely in the empirical part of this thesis.

Besides the role of technology, one of the further characteristics of the sector is its cross-border interactions. Telecommunications have spread across boundaries, creating a worldwide interconnection of actors, technologies and services. Mansell and Raboy outline that “[t]he spread of digital technologies and the ease with which these technologies ignored national boundaries expanded the reach of networks such that nation-states were no longer perceived as the only containers for policy measures” (2011:3). The limitless scope of telecommunications is closely linked to its particular form of supranational regulation (Padovani and Pavan, 2011:543). In this sector, international fora, such as the ITU have been active since the 1930s. These forms of supranational regulations exist in other fields, such as international aviation with the ICAO or the banking sector, where the Basel Committee on Banking Supervision (BCBS) represents a pre-eminent organisation (Braithwaite and Drahos, 2000:117). In sectors marked by cross-border interaction, international regulatory fora provide promising areas for policy diffusion research.

Lastly, the telecommunications sector has a strong weight in the GDP of a country. This is notably due to the role of telecommunications as a profitable business, but it is also as a carrier of other services. The WTO recognises this duality in the General Agreement on trade in services (GATS). The Annex on Telecommunications recognises “the specificities of the telecommunications services sector and, in particular, its dual role as a distinct sector of economic

activity and as the underlying transport means for other economic activities” (WTO, 1995b:art.1). Hence in such a business-oriented sector, several interested parties are likely to compete to attract more gains. This is relevant for the states notably because of revenues from spectrum auction and taxes paid by corporations active in the field. It is also a very lucrative business for national and international companies active in the sector, such as fixed and mobile phone operators. For instance, in such fields, it is likely to be observed that domestic and international investors, lobbies or business entrepreneurs have a role to play in regulation as well. In fact, the sector of telecommunications is sufficiently complex, in terms of technology, regulation, cross-border interconnections and business weight so to conclude that policy-making in the field is both marked by domestic and international interests and an important regional and international regulatory environment.

The selection of two different policy subsectors, USO and spectrum management allows for variation within the sector to be analysed. Firstly, USO is a typical national-oriented policy. At the origin of the argument is a discourse based on social inclusion and the need for the state to bridge the gap of competition failure and to provide affordable telecommunications services to the whole national territory. USO is limited to the national territory and USO decisions domestically do not have a direct impact on USO systems elsewhere. Secondly, spectrum management provisions as opposed to USO, are linked to international regulation and practice as well as large economic interests. Spectrum management is a cross-border issue, where the laws of physics⁵ have forced countries to cooperate for decades in order to avoid interferences. The international framework for spectrum management is closely linked to the ITU regulation. Furthermore, spectrum management provides a very dynamic and international context, where stakes are high. For example, major operators, often European, wish to enter or expand their markets in the developing

⁵ Electromagnetic spectrum is similar to non-physical waves. In cases where they overlap with each other, they interfere and harm each other signals. Regulation occurs mainly to prevent these harmful interferences, but also to achieve economic and technical efficiency of spectrum use (WELLENIUS, B. & NETO, I. 2008. Managing the Radio Spectrum: Framework for Reform in Developing Countries. *World Bank: Global Informaiton and Communication Technologies Department*, Policy Research Working Paper 4549.)

countries through the acquiring of more spectrum and more market shares. Major equipment companies are also closely concerned with spectrum management regulation, as the standards set for the use of spectrum are tied to large markets (Büthe and Mattli, 2013:210). Based on these characteristics, Table 3 summarises the different assumptions according to each mechanisms of diffusion.

Table 3 Subsector-cases assumptions

	Sector Environment		Sector Pressures			Policy Sector
	International regulatory channels	Transgovernmental collaboration	Efficiency	Economic Interest	Sanction capacity	
Learning (H₃)	-	+	+	-	-	USO
Imitation (H₄)	-	+	-	-	-	USO
Competition (H₅)	+	-	+	+	-	Spectrum
Coercion (H₆)	+	-	-	+	+	Spectrum

Notes: Values: +: presence of variable is related to mechanism; -: absence of variable is related to mechanism.

Source: Author.

Table 3 shows that USO corresponds to learning and imitation mechanisms in majority. This is based on the premise that economic interests and sanction capacity are only limited in this field. Competition can arise according to which system the USO contracts are given, but it normally only concerns markets that are difficult to access and where a non-regulated market based system would fail to provide services. In consequence, it is expected that in the case of USO, only little international political and economic interest will be involved in policy making. This thesis argues that USO is more likely to be subject to two mechanisms of diffusion exempt from international regulatory framework, sanction and economic interest. The first one is learning, which corresponds to the third hypothesis (H₃ Learning), arguing that the mechanism occurs in a context exempt of international regulatory channels, economic interest and sanction capacity, where transgovernmental collaboration is used with the objective of efficiency enhancement. The second one is on imitation, which corresponds to the fourth hypothesis (H₄ Imitation), arguing that the mechanism occurs in a context exempt of international regulatory channels, economic

interest and sanction capacity, where transgovernmental collaboration is used with the objective to reach conformity with the perceived leaders in the field (absence of efficiency variable).

Table 3 also shows that spectrum management corresponds to economic competition and sanction mechanisms in majority. This is due to the cross-border scope of spectrum associated to important economic interests. In such sectors, conflict of interests may arise and power relationships are likely to take place. This corresponds to the argument of Mansell and Raboy defining spectrum regulation as a key area for destabilisation, due to the many stakes involved (2011:10). This thesis argues that spectrum management is more likely to be subject to two mechanisms of diffusion marked by international regulatory framework, sanction and economic interest. The first one is economic competition, which corresponds to the fifth hypothesis (H₅ Competition), arguing that the mechanism occurs in a context exempt of sanction capacity, where international regulatory channels and not transgovernmental ones, are used with the objective to satisfy economic interests and reach efficiency. The second one is coercion, which corresponds to the sixth and last hypothesis (H₆ Coercion), arguing that the mechanism occurs in context of economic interest, leadership and sanction capacity, where international regulatory channels and not transgovernmental ones, are used principally and possess the capacity to impose sanctions.

1.6 Rationale of research

This project contributes to academic research on various levels. It contributes to the literature on policy diffusion, but it is also innovative with regard to the selection of case studies and the sector chosen. The contribution to the policy diffusion literature has already been explained earlier (Section 1.3). In particular, this study aims at bridging the gap of the systematic use of policy diffusion theories in real case scenarios. It proposes methodological, theoretical and empirical tools to observe the phenomenon of policy diffusion, analyse the conditions to engage in policy diffusion and disentangle the four mechanisms of diffusion. The selection of three developing countries of the MENA region as country-case studies is furthermore adequate as it proposes both theoretical and empirical value of the states' vulnerability to external actors in policy

diffusion. It links questions of technological, political and economic development to policy making in an innovative way.

Moreover, the sector of telecommunications diffusion in developing countries is important for several reasons. From a global regulatory perspective, minimal research has been carried out that tackles regulatory flows beyond the traditional North-South flows (Bauer, 2010b:9). In fact, Bauer argues that several directional trends have taken place in the history of communications and mentions that four flows of information are now coexisting. The first flow represents a North-North dimension, where the US and other Northern countries embarked on policies of privatisation and liberalisation. A North-South dimension soon appeared after the reform processes in industrialised countries. Southern countries followed the trends of industrialised countries, partly because of the demands of lenders such as the World Bank. More recently, a regional South-South flow has progressively emerged among developing countries, whose experience and context are more similar compared to the Northern countries. Lastly, a reverse flow of information from the South to the North has taken place, with industrialised countries being influenced by insightful approaches from innovative Southern countries (2010b:9). One of the aims of this thesis is to bring empirical insight challenging the traditional North-South view. The use of three MENA countries as policy adopters, as opposed to policy givers, allows observing empirically whether the North-South trend still holds nowadays, but more importantly, it allows observing whether this flow has evolved over time and whether it confirms the emergence of new regulatory trends such as South-North or South-South flows.

From an economic perspective, telecommunications diffusion in developing countries is also essential, since it represents a vast potential for development (Gasmi et al., 2013, Gasmi and Recuero Virto, 2010). As mentioned earlier, telecommunications services have been increasingly recognised by the international community, and notably within the WTO and the GATS, as a lucrative industry in itself and as a provider for other services. For instance Rodine-Hardy argues that telecommunications is one of the most global markets and can represent significant shares of GDP and gross domestic investment. She argues that “[d]omestically, the telecom sector is one of the key drivers in the economy, the glue that binds together firms and market

participants. Demand for telecommunications services and products is high, and there are vast profits to be made in the sector” (2013:2). For developing countries, ICT carry the potential to advance the societies economically.

This focus on developing the ICT sector is remarkable in semi-authoritarian countries which control the use of technology closely (Guaaybess, 2012). In fact, as Zarwan mentions the conflicting interest of semi-authoritarian MENA countries to develop ICT on the one hand and control the access to information on the other, leads to contradictory policies (2005:2). Preserving telecommunications from further censorship and supporting greater access to information is at the core of several international development goals⁶. Numerous reports and articles tackle the question of the lack of freedom in telecommunications, press and Media in Arab states (Guaaybess, 2008, Zarwan, 2005, UNDP, 2012). The lack of free press and free media remains a concern across the wider academic and NGO communities (Rivlin, 2013:26, Dabbous, 1994:70, Lynch, 2006:37). However, sophisticated censorship aimed at the telecommunications sector specifically has been less covered by researchers. In fact, censorship, through for example state-controlled internet service providers and proxy servers has equally important consequences to restrain access to information (Burkehardt and Older, 2003, Kalathil and Boas, 2003). Censorship also takes place through state-ownership and control of the national telecommunications network and eventually the international gateways (Goldstein, 1999:28, El Gody, 2007). The role of regulation to counter censorship and state control is of tremendous importance and justifies

⁶ Art. 19 of the Universal Declaration of Human Rights mentions that “[e]veryone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers” (UN GENERAL ASSEMBLY. 1948. *Universal Declaration of Human Rights* [Online]. Available: <http://www.un.org/en/universal-declaration-human-rights/> [Accessed Dec 1 2015].)

Art. 19 of the International Covenant on Civil and Political Rights (ICCPR) reaffirms that everyone shall have the right to hold opinions without interference. In particular, it states that everyone shall have the right to freedom of expression, including freedom to seek, receive and impart information and ideas of all kinds, regardless of frontiers, either orally, in writing or in print, in the form of art, or through any other media of his choice (UN GENERAL ASSEMBLY. 1966. *International Covenant on Civil and Political Rights (ICCPR)* (Treaty Series, vol. 999/14668) [Online]. Available: <http://www.ohchr.org/en/professionalinterest/pages/ccpr.aspx> [Accessed Dec 12 2015].)

academic attention. Ownership in the telecommunications sector is discussed more broadly in Section 6.2, Framework Proposition 1.

Lastly, linked to the question of censorship and access to information is the issue of the digital divide (Loo and Ngan, 2012, Milner, 2006). As Norris mentions, the internet age has generated substantial worldwide inequalities in access and use. However, it is also believed, that if such inequalities could be overcome, digital technologies could provide multiple opportunities for development (2001:9). Since the millennium, a growing interest has arisen into the potential of information technology to bridge the digital divide. This issue was central to the 2003 and 2005 conferences of the World Summit on the Information Society (WSIS), where both focused on the need to overcome an uneven distribution of benefits (WSIS, 2003a:2, WSIS, 2003b:11, WSIS, 2005). This view was also articulated by the 2003 Pan Arab Cairo Declaration on the Information Society reckoning the need to bridge the digital divide and create a comprehensive and sustainable community development in the Arab World (Cairo Declaration, 2003:5). Several authors however doubt whether technologies have brought the world any closer together (Abdulla, 2007:2). Still technological development carries broad hopes for socioeconomic and democratic development (Norris, 2001:6-7). The specific connection between telecommunications and opportunities, in addition to the booming demand in developing countries, reinforce the importance and validity of the selected case studies.

1.7 Organisation of the study

Chapter 1 – Introduction

The first chapter of this thesis presents the key building blocks of this thesis. It aims at defining the design of this thesis. To frame this project, the first section explains the policy problem. It is followed by a discussion on the literature to identify where a contribution is needed to expand the research on policy diffusion. The third section defines the research question and the conceptualisation of the research framework. It notably explains the three-step framework, based on the observation of policy diffusion, the conditions leading to policy diffusion and finally the variables disentangling mechanisms of

diffusion. The fourth section illustrates the case selection and assumptions, focusing on the three countries and two sector-cases. The fifth section gives the rationale of research and focuses closely on the importance of studying both the telecommunications sectors and developing countries. This section, the sixth and last one, summarises each chapter to facilitate the comprehension of this thesis' structure.

Chapter 2 – Conceptual and Theoretical Framework

This chapter explains the theoretical and conceptual framework which is going to be followed in the thesis. This is based mostly on policy diffusion literature, which is used to ground the framework. This chapter is divided into three sections mirroring the three steps of the framework and the three chapters of the empirical part (Chapters 4 to 6). The first section addresses the question of how to evidence and observe policy diffusion. It answers the main question of this thesis: does policy adoption take place in the cases under study. The second section relates to the state conditions leading to policy adoption. It concerns the vulnerability of adopting states to external actors. This section answers the first subquestion derived from the main research question: under which conditions is a country expected to adopt a policy which originated in another country. The last section frames the question of the mechanisms of policy diffusion. It explains four mechanisms that are well established in policy diffusion literature; learning, imitation, competition and coercion. It then clarifies how these mechanisms are operationalised in the research. An additional contextualisation of the telecommunications sector is given to illustrate the last part of the theoretical framework. This answers the second and last subquestion of this thesis: how does this adoption take place.

Chapter 3 – Methodology

The methodological chapter addresses the sources and methods used to conduct the research. The first section defines the different methodological instruments used in this thesis. In particular, case studies are used jointly to identify policy diffusion and examine the contexts in which policy diffusion occurred. This section also introduces the use of expert interviews, which are

the main source of original data for this project. Information gathered from the mentioned interviews has then been inserted in qualitative software, NVivo, to systematise the coding and analyse the information. Furthermore, different secondary and primary sources are specified, which have been consulted to gain the holistic picture of the case studies. The second section of the methodology chapter addresses the measurements of the dependent and independent variables. It proposes clarification regarding the use of different indexes and statistical databases to measure state variables. In addition, it defines how to measure qualitatively the selected sector variables.

Chapter 4 – Observing policy adoption

The fourth chapter is the first empirical chapter. It clarifies the observation of policy adoption in all six cases of this thesis. The first section defines the reference points to observe policy diffusion. For the two policy cases, USO and spectrum management, two recent management ideas are extracted to observe whether Morocco, Jordan and Egypt have integrated them in their policy making domestically. As a comparative point, the EU model is used. The second section analyses each of the six case studies using the expert interviews made during the field research. The results are given at country level to simplify comparison.

Chapter 5 – Conditions leading to policy adoption

The fifth chapter is the second empirical chapter. Once the observation of policy adoption has been defined, the conditions leading to policy adoption are analysed. In this chapter, four state variables, defining degrees of vulnerability of states to external forces are discussed: market and governance openness and market and political interconnectedness. The first section gives a historical contextualisation of the four variables for MENA countries as a whole, starting from the years following their Independence from colonial powers in the 1950s. The second section provides a closer analysis to the background of Egypt, Jordan and Morocco. Finally, the last section discusses the selected variables and examines their reliability and validity.

Chapter 6 – Mechanisms of diffusion

The sixth chapter is the last chapter of the empirical section. It focuses on mechanisms of diffusion. It is built on the idea originating from soft governance literature that NRAs are delegate to the Telecommunications Ministries to participate in policy-making activities. This is specifically the case in technological fields such as telecommunications. In this chapter, both sets of sector variables defined in terms of environment and the pressures of policy-making are analysed in detail. Environment variables relate to the context in which NRAs have to engage in policy-making activities. Pressure variables relate to the forces leading the engagement of the NRAs into policy making activities. The first section of the chapter contextualises the telecommunications sector in the light of the four theoretical propositions surrounding the mechanisms of diffusion framework. The second section analyses the five variables in the empirical context of Morocco and Jordan in USO and spectrum management. In this part, the case of Egypt is not examined as both previous chapters conclude that policy adoption in Egypt is lower than in the policy cases of Morocco and Jordan.

Chapter 7 – Conclusion

This last chapter presents the key findings of this thesis. This chapter firstly reviews the contribution, innovation and findings of each of the three empirical chapters. It proceeds by answering the main research question and two subquestions. By doing so, it addresses both the hypotheses and assumptions. The first section reflects on each one of the empirical chapters of this thesis. It firstly focuses on methodological tools to observe policy diffusion, which corresponds to Chapter 4. It then discusses theoretical and empirical contributions regarding the conditions leading to policy diffusion, corresponding to Chapter 5 and the variables disentangling the mechanisms of diffusion, corresponding to Chapter 6. The next section then gives the limitations of the thesis. The last section finally proposes different directions to generalise the findings, based on the selected state and sector cases' characteristics.

2 CHAPTER 2 – Conceptual and Theoretical Framework

2.1 Introduction

This thesis focuses on strategies behind policy adoption, using six cases that comprise of three countries, Morocco, Jordan and Egypt and two policy subsectors that are part of the telecommunications field, USO and spectrum management. This thesis is constructed as a three-step framework, the details of which, is the aim of this chapter. The leading question of this project is does policy adoption take place in the telecommunications sector in Jordan, Morocco and Egypt? This question is answered by observing the product and the process of diffusion across different models. If policy adoption has indeed taken place, then two secondary questions are asked. The first one is under which conditions is a country expected to adopt a policy which originated in another country. This question is answered by using a selection of four state variables which indicate different levels of vulnerability of the adopting countries to external models. The second and last question is how does this adoption take place. To answer this question, four identified mechanisms of policy diffusion are assessed using different combinations of five sector variables.

The theoretical and conceptual framework is closely linked to the characteristics of the telecommunications sector. The peculiarities of this sector were addressed in the previous part (Section 1.5.2). It is nonetheless important to restate the characteristics of the sector in order to make sense of the chosen framework. It was observed that the telecommunications sector is a highly technological field. In such sectors, citizens' participation is only limited, as a certain level of knowledge is required to understand the policy making process. These highly technological fields also include the need to face a challenging and changing environment forcing leaders to adapt regulation to improve technologies and its uses. This is also linked to the need to invest significantly to keep the sector up-to-date. High investments are also linked to power relations related to the potential profit in the field, for government and corporations. Another peculiarity of the sector is its intrinsic cross-border characteristic. The field of telecommunications crosses boundaries regardless of the physical limitations. Hence, actors in the policy-making process need to interact with each other to regulate the field and avoid interferences. They also

need to take into account the regulations made at a supranational level. In effect, in the telecommunications sector, supranational bodies such as the WTO and ITU are key regulators, whose decisions spread worldwide.

It is in this context, characterised by the interaction between a variety of actors, including supranational bodies, where performance, profits and complexity are key, that the theoretical and conceptual framework was developed. The first focus of the framework aims to observe policy diffusion in the telecommunications sector in Morocco, Jordan and Egypt. In this part, the points of reference to observe policy diffusion in the sector are closely linked to technological and regulatory innovations in the field. Two management ideas existing for USO and spectrum management are the focus of diffusion across systems. The second focus of the framework is on conditions leading to policy adoption. In this part, the focus is set on state level variables defining the vulnerability of a country to external forces. In this context as well, vulnerability to external forces must be understood in a context where economic and regulatory exchanges matter, as is the case in the telecommunications sector. Finally, the third focus of the framework is on mechanisms of diffusion. In this last part, five sector variables are selected and their combinations infer which mechanism has been at play. In this case, even more precisely than in the two previous parts, the impact of the telecommunications sector is distinct. It is based on the characteristics of this sector, that the framework was developed. For instance, generalisability of this thesis is possible, but must be contextualised adequately. Further discussion regarding generalisability is given in the last chapter of this thesis (Section 7.4).

The theoretical framework of this thesis is divided into three parts to mirror the three driving questions of this research. This is also the structure of the empirical section of the thesis—Chapters 4, 5 and 6—which mirror this three-step framework. As such the first section of this chapter focuses on observing policy diffusion. It explains what policy diffusion is and how to methodologically and systematically observe it. The empirical application of these tools is the focus of Chapter 4. The second section of this chapter conceptualises the conditions leading to policy diffusion. It assesses the literature on the subject and discusses a selection of four state variables linked to market and governance openness and market and political interconnectedness. The

empirical application of this framework is the focus of Chapter 5. The third and last section conceptualises the mechanisms that policy diffusion is following and proposes different combinations of five sector variables. The aim of this part is to infer that in an observed situation of policy adoption, the presence of certain sets of variables gives indication so to allow a deduction of which of the four mechanisms was at play. These five variables are divided into two sets—environment and pressures—linked to the work of NRAs. The empirical application of this last part of the framework is the focus of Chapter 6.

2.2 Observing policy diffusion

The first aim of this thesis is to observe whether policy adoption is taking place in the telecommunications sector in Morocco, Jordan and Egypt. To do so it is necessary to define systematically and methodologically what is policy diffusion and how to observe it and not to confuse it with other forms of policy-making. As has been expressed in the introductory part of this thesis, policy diffusion has been criticised by several authors due to the difficulty in systematically observing it and the need to differentiate it to other forms of policy making. Other forms may for example include socialisation, meaning that individuals develop a sense of belonging with a group and adapt their behaviour accordingly (Beyers, 2010:909, Freyburg, 2014). This form of policy-making means that the involvement with a certain set of norms and values, causes a redefinition of ones' own norms and practices and that these norms become internalised (Beyers, 2010:909). Such forms of policy making are “adaptive”, rather than “adoptive”. In this thesis, however, the internationalisation of norms is not discussed. Instead the close observation of the movement of policies is at the core. The main challenge is to identify this movement.

Several authors develop theoretical tools to exclude other forms of policy making from policy diffusion. Starke outlines that in policy diffusion studies, it must be empirically demonstrated that the diffusion effect is not explained by alternative explanations, such as independent domestic or international causes, a common external shock or pure chance (2013:565). To distinguish policy diffusion from other forms of policy making, Bennett (1997:215) and Stone (1999:56) outline four parameters. They focus on validating policy adoption as a result of prior knowledge. Firstly, it must be demonstrated that idiosyncratic

domestic factors are not independently responsible for policy adoption. Secondly, it must be demonstrated that adoption is not the result of similar modernising forces having the same, but separate, effects in different states. Thirdly, it must be demonstrated that policy makers are aware of the policy adoptions elsewhere and finally, it must be demonstrated that this overseas evidence was utilised within domestic policy debates. Based on these four parameters, one main lesson is drawn to identify policy diffusion. The observed policy adoption must be the result of a visible interaction with another model. It must not have occurred independently, due notably to modernising forces or to external shock.

Based on this element, this thesis proposes the use of two complementary concepts to conclude that policy diffusion has taken place, the product and the process. The product refers to the 'physical' observation of the diffused regulation item. It must be discernible in the policy documents of two different countries that a similar element has been transferred from one regulatory unit to the other. The product can however take a loose form, such as a regulation, law, policy guidelines, idea or programme. There is, in fact, an agreement among different authors that diffused policies can take different shapes and include a wide range of phenomena (Karch, 2007:2, Weyland, 2006:17). Dolowitz and Marsh mention seven objects of transfer including policy goals, structure and content, policy instruments or administrative techniques, institutions, ideology, ideas, attitudes and concepts and finally negative lessons (1996:350). Weyland also distinguishes between model diffusion, such as a well-defined blueprint, and principle diffusion, taking a looser form such as ideas (2006:17). Proposing different forms of product, looser and harder, is ideal to this project, as the aim is to grasp the complexity of real case scenarios and unravel the intricacy of policy-making. As a second step, the process of diffusion must be observed. This relates to the context in which the product has been adopted. It must be clear that the effects of interaction have taken place between the original policy and the adopted one. This can be done by discussing with the policy-makers directly or consulting meeting documents between different regulators.

The use of both the product and the process has seduced several authors (Farrell and Heritier, 2005). Schimmelfennig and Sedelmeier use a two-steps

observation of rule transfer, similar to the concept of product and process explained here (2004:662). The first focus is set on what is exported, which corresponds to the product, and the second is how the rule transfer took place, corresponding to the process. They mention the importance of distinguishing the causal link between two systems (2004:662). The commonality of these approaches is on the focus of the interaction taking place between different systems. In policy diffusion, interaction is at the core, both in terms of methods and theory. The theoretical use of interaction is more explicitly detailed in the next part of this thesis (Section 2.3), where two state variables, market and political interconnectedness intend to grasp this singularity. Beyer also recalls the importance of distinguishing between process and outcomes and proposes useful complementary propositions to Easton's distinction of output, outcome and impact (1965, 2010:911). Beyers notably mentions the importance of distinguishing the product from the process to distinctly separate the causes from the consequences (2010:911). In this thesis, both the product and the process need to be separately identified and jointly assessed to conclude that the diffused law, programme or idea (the product) has been the result of an interaction between two different systems (the process). Only then is it concluded that policy diffusion has taken place.

2.3 Conditions to engage in policy diffusion

The second aim of this thesis is to operationalise the domestic context of the adopting countries to answer the first subquestion of this thesis: under which conditions does a country adopt a policy that originated elsewhere. In the literature, the domestic context has been discussed broadly, but not always analysed systematically. Several authors have identified useful independent variables to define this context. Berry and Berry suggest to use jointly the internal determinants model, addressing the political, economic and social characteristics of a state and the regional diffusion model, addressing the influence of nearby (1990:396). More precisely, Newmark argues that a variety of indicators of wealth can be chosen to explain internal determinant models, such as excess resources, per capita income, expenditures, urbanization, larger governments, higher education levels, higher literacy rates and greater upward mobility (2002:158-9). These variables give an interesting insight into which properties to use to best define the domestic context. However, they lack

systematisation. In addition, it is not always straightforward in the literature how to operationalise the regional characteristics of a certain context. The result of which is a lack of tools to apply policy diffusion theories to empirical cases.

In this thesis, state properties have been closely linked to the policy diffusion literature. Two major and complementary trends exist so to explain why a country is likely to engage in policy diffusion. The first one relates to the vulnerability of a state to external developments. This vulnerability is more commonly referred to as the uncertainty and limit to rationality that policy-makers face when having to choose among solutions. They are limited in their capacities to systematically assess all possibilities. As such getting inspiration from a model in operation elsewhere represents the best solution. Rogers defines uncertainty as a situation where there is a lack of predictability, structure and information (2003:6). Rose mentions that uncertainty is one of the structural forces, which conditions to a certain degree the transfer and character of implantation of policies across countries (1999:53-4). It is closely linked to the limits of rationality that decision-maker face when choosing between complex alternatives (Meseguer and Gilardi, 2009, Simmons and Elkins, 2004, Dobbin et al., 2007). To deal with these situations, Walker argues that one of the only ways is thus to look for analogy in other states, where the policy has proved to be successful (1969:881). Hence, it is observed that vulnerability derives from the limits of rationality for policy-makers to evaluate all sources of information and policy options available to them. In this context, policy-makers need to look abroad for examples to follow.

The second trend in the literature explaining why a country is likely to engage in policy diffusion refers to the interrelation between domestic decisions and external ones and corresponds to the “interactional” core of policy diffusion. It was observed that this interaction in the process of policy-making is essential methodologically to conclude that policy diffusion is taking place. In fact, the interaction of two systems is at the core of policy diffusion. It can be perceived from different angles. Firstly, interaction must be understood in terms of interdependence of decision-making. Decisions taken abroad influence decisions taken domestically and vice versa. This is notably due to the similarity of problems that countries face. Majone for example mentions that “different governments faced with the same problem respond with the same or similar

polices” (1991:103). Rose also argues that problems tend to be similar to various countries at the time, thus creating a tendency for policy-makers to search for programmes elsewhere and draw lessons from them (1991:7). The similarity of issues and solutions is an important factor driving policy diffusion, but interaction must also be understood in the sense of interdependence or interconnectedness. In that sense, as mentions Brooks, a decision taken in one place is conditioned to some degree by similar choices made elsewhere (2007:703). This interconnectedness of policy-making is described in two steps by Simmons and Elkins. They argue that the adoption of policies and programmes elsewhere firstly alters the benefits of adoption for others and secondly provides information about costs or benefits of policy innovation (2004:172). Interconnectedness is best defined as an inexorable link between different administrations, where decisions taken abroad have an impact domestically.

Based on the theoretical concepts of vulnerability and interaction, four state variables have been identified. The vulnerability of a state to external developments is operationalised into two variables, governance and market openness. Openness is used instead of vulnerability, as it does not carry the negative connotation of *weakness* linked to the concept of vulnerability, but epitomises the same susceptibility of exposure to external actors. Openness is a concept that has been increasingly used worldwide and notably by international organisations. For instance, trade openness is regularly used to define the correlation between GDP and trade (WITS, 2014). It is thus appropriate when defining the vulnerability to external actors.

The interrelation between domestic and external systems is operationalised in this thesis into two variables, political and market interconnectedness. Interconnectedness is also a recent term that has been adopted by several international organisations and academic research to describe similar phenomenon (Didier and Schmukler, 2013). The 2014 World Developments Report uses this term, mentioning that openness and modernisation have made economic, social and ecological systems increasingly interconnected (World Bank, 2014c:35). The four variables of governance and market openness and political and market interconnectedness give an indication of the degree to which countries need to pay attention to external actors for political and

economic reasons. It is expected that all four variables give homogenous and comparable indication regarding the likelihood of adoption. A higher level of all four of them supposes a higher likelihood to engage in policy adoption. On the contrary, a lower level of all four of them supposes a lower likelihood to engage in policy adoption. They are presented according to the same continuum, as shown in Figure 1 (firstly given in Section 1.4, page 22).

Figure 1 Conditions leading to policy diffusion



Source: Author.

Based on the above theoretical insights, the four chosen variables are defined more precisely. Firstly, governance openness is meant as the degree to which a country is taking the rule of law and the work of regulatory authorities into account. It is measured in terms of effective regulatory governance, based on both the governance and regulatory effectiveness of a country. The focus on the rule of law seems quite automatic when studying policy diffusion. In fact, several authors underline the role of the governance climate in policy-making (Rodine-Hardy, 2013:57-9) or national regulatory styles (Humphreys and Simpson, 2008:855). The degree of governance openness is central to observe to what extent an adopting country is part of the international regulatory game. This variable indicates that the more open governance in a country is, the more likely it is to look abroad at other regulatory models to improve its own domestically.

Secondly, market openness is defined as the reliance on national and international market forces to regulate the economy. It takes into account the role of the private sector leading to regulatory changes and the necessary harmonisation across countries to permit exchanges and trade. This is particularly revealing in sectors, such as telecommunications, which have

experienced a tremendous evolution from a system based on state-monopolies to an almost complete liberalisation. Market openness is also a known variable to define the domestic context. Humphrey and Simpson argue that the market specificities of a country, whether a market is large or small, developed or under-developed, has an impact on policy developments (2008:855). This variable implies that the more open a market is, the more likely it is to look at other models to be a part of the global market community.

Thirdly, the variable on political interconnectedness is defined by the relation of dependency between two countries for political reasons. It is here related to the issue of foreign aid and the political motivations and consequences of giving and receiving foreign aid. It is based on the premise that the more an adopting country is relying on third countries for political reasons, the more it will have to pay attention to the policy decisions taken abroad. Rodine-Hardy argues that it is probable that a country's debt service affects its probability of liberal telecommunication reform. This author argues that a country with higher debt service, is more likely to establish certain regulatory changes (2013:24-5). This is the argument followed in this thesis. This variable indicates that the more a country is dependent on foreign aid, the more likely it is to adopt policies that emanate from countries providing this aid.

Finally, the variable on market interconnectedness refers to the degree of international trade interdependence, in particular in terms of the role of the private sector and specifically the role of foreign direct investments (FDI) in the economy of the adopting country. The role of foreign investors is central for a country's domestic development. Again, this is interesting when looking at the example of the telecommunications sector, which requires high levels of investments to develop. Market interconnectedness has also been used by Rodine-Hardy who includes the role of government-business relations and the government attitudes toward foreign direct investment as key indicators of the domestic context (2013:57-9). The argument behind this variable is that the higher a country depends on FDI from foreign countries, the more likely it is to follow policy formulations emanating from these countries.

To conclude, the operationalisation of all four variables is central to understand under which conditions do countries adopt a policy that originated externally. This is useful theoretically and conceptually. However, in real case scenarios it

must be expected that the four variables are overlapping to some degrees. This is visible, as Faruk Aysan and Véganzonès-Varoudakis mention, that while a poor quality of administration reflects in the security of property rights, regulation and taxation, greater openness of trade and competition are conducive to better governance as well (2009:94-5). This shows the overlapping characteristics of all four variables empirically. Each individual development of the variables may have an impact over the other variables, as each of them is part of the same system.

2.4 Disentangling mechanisms of policy diffusion

This section presents the third and last part of the conceptual framework. Once the adoption of a policy and the conditions leading to policy adoption have been discussed, it is possible to differentiate among the four mechanisms of diffusion—learning, imitation, competition, coercion—according to different combinations of sector variables. The aim of this section is to answer the second research subquestion: how does policy adoption take place. This question can only be answered if it has been previously concluded that a phenomenon of policy diffusion, in the case of this thesis, policy adoption, has taken place. In this last part of the framework, the focus is set on the work of NRAs in policy-making. The decision to take NRAs as focal points corresponds to changes in the governance environment that several scholars have recently underlined (Maggetti, 2009, Thatcher, 2002). In the context of the EU institutions, Harcourt mentions that ‘new’ or ‘soft’ governance, which is defined by weak instruments of control, is a key development of governance, as a way to bypass political stagnation (2008:7). She describes soft governance by non-binding agreements, where policy is taking place within soft policy fora such as committees, NRAs or the industrial area (2008:29). The idea of soft governance and the increasing role of NRAs in policy making is however, not only bound to the EU institutions. Their relevance is perceptible in the MENA region as well and is an interesting starting point to discuss mechanisms of diffusion.

In the field of telecommunications, NRAs have had an increasingly relevant role. This is the case in such sectors, where technological sophistication is required to develop the regulatory framework. It can be seen in a variety of other sectors as well, such as finances, medical and health sectors and electricity. Such

NRAs present closer competences to the field and often substitute Ministries for technical questions. In the telecommunications sector, they have emerged in parallel to the liberalisation process of the sector (Badran, 2012, Simpson, 2008). In Europe, their creation dates back to the late 1990s as is the case in most MENA countries. In Morocco, the NRA was created in 1998, in Jordan in 1995 and in Egypt in 2001. One of the peculiarities of the NRAs of the MENA countries is the fact that they are not as independent of the Ministries and corporations as international regulations wish them to be. The WTO Reference Paper on telecommunications mentions that NRAs shall be “separate from, and not accountable to, any supplier of basic telecommunications services. The decisions of and the procedures used by regulators shall be impartial with respect to all market participants” (WTO, 1996:art.5). In addition, to be separate from market participants, NRAs must also be ideally separated from the relevant government ministry (Rodine-Hardy, 2013:13). However, in MENA countries the independence from Ministries and corporations is not as transparent and a blurred line exists, which was perceptible during the field research. The independence of NRAs in MENA countries is discussed in more detail in Chapter 6.

The emergence of soft governance and the increasing role of NRAs in the policy-making process are both contributing to expand a technocratic style of governance, increasingly separated from public debate. Harcourt mentions that the technocratic style of governance is remarkable in the communications field, where the involvement of media, national political parties or citizens is seen as an impediment to successful technocratic administrations. In such cases, the politicisation of a policy initiative is feared to lead to inefficient solutions and loss of support from the industry (2008:10). This is again closely applicable to this thesis. As the telecommunications sector is highly technological and investment intensive, its policy developments are more frequently than not bound to a technocratic, industrial and close community of experts. The involvement of non-technocratic experts from the media, political parties or citizens is hardly seen. This is relevant for MENA countries, which do not systematically include citizens or political parties in processes of policy-making (Schmitt, 2015:338). As such, the role of political parties and citizens in the telecommunications policy process were not included in the framework.

In this part of the framework, two sets of variables were selected to frame the work of NRAs in the sector. Firstly, the environment variables define who are the main agents and channels that the NRAs need to work with during the policy-making process. The first environment variable reviews the work of NRAs with international and supranational bodies, such as the ITU or WTO (international framework). It then discusses transnational and bilateral channels, such as telecommunications regulatory groups and bilateral partnerships (transgovernmental collaboration). Secondly, the pressure variables define what is the motivation and objectives behind engaging in policy making. Pressures are defined into three sets. Firstly, engaging in policy making results of a will to improve the sector (efficiency). Secondly, it may be linked to the need to satisfy economic interests in the field (economic interests). Lastly, it may take place as a result of a risk of sanctions (sanction). This thesis argues that the presence or absence of each one of the five variables infer which mechanisms of diffusion may have been at play in the process of diffusion.

This last section of the framework is divided into three parts. Firstly, a close look into the conceptualisation of the mechanisms of diffusion is proposed. Based on policy diffusion literature, the four mechanisms are discussed in detail. Secondly, the combination of the sector variables and mechanisms of diffusion is given. This is based on four framework propositions that are all presented and discussed in this part. Finally, an illustration of the telecommunications sector is given to propose a first contextualisation and facilitate the understanding of the framework and of the empirical part as a whole. As mentioned earlier, this framework is closely linked to the telecommunications sector but also applies to other sectors presenting similar multilevel actors in policy-making, with high technology, investment and dynamism requirements. This generalisability is further discussed in the conclusion of this thesis (Section 7.4).

2.4.1 Operationalising learning, imitation, competition and coercion

The four mechanisms of diffusion that are used in this theoretical framework are mostly based on the typologies of Shipan and Volden (2008), Simmons et al. (2008a) and Rogers (2003), who classify the categories of diffusion, according to four distinct mechanisms: learning, imitation, economic competition and

coercion. These four mechanisms represent a theoretical direction for policy research. However, as Shipan and Volden mention, in reality strict distinction hardly takes place and overlap between all four mechanisms is likely to be observed (2008:844). This section offers a review of all four mechanisms of diffusion to define the ideal-types of each mechanism based on available literature. To allow for a comprehensive review of the four mechanisms, different bodies of literatures are used in addition to policy diffusion. These include works from a variety of sources such as policy transfer, lesson-drawing, constructivism and rational theories.

To facilitate the conceptualisation and comparison of the four mechanisms of diffusion, Table 4 classifies each mechanism according to four criteria. *Engagement* stands for the domestic impulse to engage in policy diffusion, it can be voluntary or forced, in the case of coercion. *Attention* refers to the push factor behind the engagement of the policy maker. These are performance for learning, following a perceived leader in the case of imitation, satisfying corporate interests in the case of competition and finally, the risk of sanction for coercion mechanisms. *Action* refers to the work of the policy-maker towards the external model. This is of course a simplification, as in reality, it seems logical that several actions overlap. Comparison is typical of learning, copying is central to imitation, a fight over benefits is clear in competition and finally, compliance defines coercion mechanisms. Finally, *Decision* stands for the final choice related to the policy change. In the case of learning, the decision refers to adapting the model. In the case of imitation, the decision is made to adopt the model. In the case of competition, satisfying economic interests in the main driver and finally, in coercion mechanisms, the model is imposed.

Table 4 Conceptualisation of the four mechanisms of diffusion

	Learning	Imitation	Competition	Coercion
Engagement	Voluntary	Voluntary	Voluntary	Forced
Attention	Performance	Perceived leader	Economic profit	Sanction
Action	Comparison	Copy	Fight over benefits	Compliance
Decision	Adapt model	Adopt model	Satisfy economic interests	Model imposed

Source: Author.

Learning

Learning is the first mechanism of this study. It supposes that decision-makers in one country observe policy adoption, implementation and impact in another country and decide whether to apply it domestically or not (Shipan and Volden, 2008:841). Learning is a voluntary act. The focus is on efficiency and the need to improve a policy. To best enhance a certain programme or policy, the policy-makers then decide whether to look at different options and take different systems into account. Rose defines this act as an action-oriented conclusion about a programme in operation elsewhere (1991:7). The learned lesson can either be positive, meaning that it is something that should be used, or negative indicating what shall be avoided. In any case, however, a causal link between the policies and the outcome are observed and examined by the adopter, including the notion of success of the implemented policy (Meseguer, 2005:72, Shipan and Volden, 2008:841). The result of the learning mechanism is an adapted model, sometimes originating from different sources, to best suit the domestic context. Thus, learning includes a notion of involvement of the policy-maker with several models, where the policy abroad is assessed in terms of its potential for domestic success.

However, this ideal-type of learning assumes a context, where rational learning is possible. In such environments, free flow of information and the access to a broad range of systems and programmes, with no selection bias, is possible (Meseguer, 2005:72-3, Meseguer and Gilardi, 2009:530-8). However, this is not always the case and bounded and channelled learning represent cases where the adopting countries need to use shortcuts due to the impossibility to reviewing a wide range of information (Dobbin et al., 2007:460-1). Information is thus selected and weighted differently according to different subjective requirements. Bounded learning might thus lead to rational bias and the adoption of inefficient and non-functional policies (Meseguer, 2005:72-3, Meseguer and Gilardi, 2009:530-8). According to Simmons and Elkins, learning from success represents a cognitive shortcut in itself, as it shows no ability to reason but merely to be influenced by the best-performing actors (2004:175). In that sense, bounded learning or channelled learning take a closer form to imitation, more heavily based on the successful countries and the act of

adoption rather than the efficiency and lessons drawn from other countries. This shows the difficulty of completely disentangling one mechanism from the other.

Imitation

Imitation is the next mechanism under review. It is also called emulation, mimicking or constructivism according to different bodies of literature. Imitation is also the result of a voluntary act from a domestic administration. However, in this case, contrarily to learning mechanisms, the focus is not set on efficiency, but on the perceived leader in the field. The involvement of decision-makers is to copy a policy, by adopting it with only minimal corrections (Rogers, 2003, Simmons et al., 2008a). Hence, one of the main characteristics of imitation is that the adopting country is not interested in learning from the action, but is oriented towards the actor itself, perceived as the leader in the field (Shipan and Volden, 2008, Shipan and Volden, 2012, Dobbin et al., 2007:452). Dobbin, Simmons et al. define imitation as a product of social construction (2007:450). This is directly linked to constructivism, as mentioned earlier (Footnote 2, page 16), where social action is defined by the perception of the actors themselves and must be understood as the product of a social context (Weber, 1978). Differences with learning are also straightforward regarding the efficiency of a policy. Meseguer and Gilardi argue that in imitation mechanisms programmes or policies are spread because they are socially valued independently from their functions and efficiencies (2009:530). DiMaggio and Powell also argue organisations might decide to model each other not because of the evidence of increased efficiency, but because it represents a safer option to address uncertainty (1983:150). Hence, imitation mechanisms are not linked to enhancing performance directly, but aim at addressing uncertainty by copying the perceived leader in the field.

In imitation mechanisms, policies that experience increasing popularity may be equally increasingly adopted, as it becomes the most 'typical' thing to do. This is notably explained by the concepts of policy momentum and information cascades, where the growing adoption of a certain policy creates a polarisation process of adoption. Walker argues that in some cases, the wide adoption of a policy makes the adoption of this policy a state responsibility (1969:890). Elkins and Simmons argue that information cascades can lead to a polarisation

towards a policy without including a rational learning process and thus creating adoption inconsistencies (2005:43). This might lead the policy to be more and more adopted, according to the growing frequency of adoption acts, without being proof-checked by efficient and functional learning. The policy gains momentum on its own (Walker, 1969, Dobbin et al., 2007). This phenomenon can be enhanced in situations where there is limited information regarding the possible options. In such cases, no other information might be available than the adoption itself. It is possible that the more available the model is, the more likely it will become legitimate, independently from its efficiency. This confirms the interest, in imitation mechanisms, of extrinsic aspects of the policy, such as its origin and its adoption frequency, rather than its content.

Economic Competition

Economic competition is the third mechanism under review. It is also defined by a voluntary act to engaging with policy-making activities. In this case, however, the attention is put on the competitor and is motivated by the maximisation of benefits. In competition mechanisms, the role of profits and benefits is at the core. According to Elkins and Simmons, economic competition must be understood as a fight over scarce resources, also in the sense of for example acquiring direct loans or contracts (2005:42). In the literature, economic competition is both linked to the fear of economic privation and to the potential gains of rewards. Meseguer and Gilardi define economic competition as a process whereby governments compete for the same resources and tend to adopt the same policies and programmes adopted by other governments for fear of loss in case of deviation (2009:530). The potential to reaching competitive rewards is central to economic competition mechanisms. Brooks mentions that in such competition mechanisms, diffusion can also be understood as a signal given by the policy to secure greater access to international investment, aid or participation in international organisations (2007:704). In fact, competition mechanisms do not only include the potential for increased material gains, but also concerns non-material rewards, such as an improved regional or international status or reputation.

Hence, in economic competition mechanisms, a variety of actors linked to corporations and the market become central. It can be observed that a country

tends to adopt specific policies in order to compete for investments or market benefits. Countries facilitate harmonisation and standardisation of regulation to facilitate market access or may implement market friendly measures to attract investors. But as Brooks mentions, competitive rewards may also be non-financial and represent a signal to secure non-economic profits. The diffusion of policies in these cases become instrumental, as a lock-in reform strategy (Mattli, 1999, Bütthe and Mattli, 2013). It might show a real commitment from the partner countries towards implementing and improving practices (DiMaggio and Powell, 1983:151). In such cases, economic competition mechanisms become closer to imitation mechanisms, where countries adopt certain policies because of their growing popularity and polarisation, in order not to miss out in case of deviation. This confirms once more the overlapping reach of mechanisms of diffusion in real case scenarios.

Coercion

Coercion is the last mechanism of diffusion presented in this thesis. This mechanism is the only one not characterised by a voluntary engagement in policy-making. On the contrary, it represents an imposed act of policy-change. In this thesis, coercion is included as a mechanism of diffusion, even if it does not result of a voluntary choice, as it describes a policy change following an alteration in incentives. This is supported by Dobbin et al., who state that as long as coercion involves changes in incentives, it can be considered as one of the diffusion mechanisms (2007:454). The focus in such cases is on coercive leaders, who have the capacity to impose compliance on the adopting country. The result is a policy-change which usually confirms the interests of the imposing leader. In such cases, identifying the coercive actors is necessary to show evidence of the promotion of policies (Dobbin et al., 2007:457). Bennett defines coercion through the idea of penetration, representing a way to enforce policy convergence portraying an absence of autonomous decision-making of the adopting state (1991:227). It can take place under various forms, such as direct coercion, representing a situation where a country imposes its policy to another government, for example through physical means. Indirect coercion represents cases where the diffusion follows externalities or functional dependences (Dolowitz and Marsh, 1996:346, Evans, 2006:480-1). Numerous

academic authors have discussed coercive practices. Dobbin et al. mention the manipulation of economic costs and benefits (2007:454). Shipan and Volden discuss pressure instruments through trade practices or the promise of financial aid or grants incentives (2012:791). Finally, Simmons et al. underline the monopolisation of information or expertise and the potential of monopolistic decisions (2008b:10). It appears that coercion mechanisms can be very broad and complex to identify. The focus on the actor is key to understand the power relationship.

In the case of regulatory developments, however, coercion shall not be understood in terms of direct and physical means exclusively. Subtler power relationships may be at play influencing domestic decisions coercively. In this mechanism, the distinctive characteristic is the risk of sanctions encountered by the adopting state. It must be effectively shown that a country is at risk in case of deviation. In academic literature, the notion of conditionality is revealing. According to Dobbin et al. conditionality occurs when powerful actors set requirements in order to provide aid, loans or any other sort of support (2007:457). Membership accession to regional schemes can also become a form of conditionality. This is for example the case when considering the EU and the Central and Eastern European Countries (CEE). For instance, Schimmelfennig and Sedelmeier describe the EU politics in relation to CEE countries as a bargaining strategy of policy enforcement by reward, through the use of EU membership prospects (2004:663). In that kind of relationship, coercive actors can be identified as they promote certain types of policies. Even if the MENA context is different from the CEE countries, due to the impossible accession to the EU, the concept of conditionality is useful. The reward for compliance with EU rules is not EU membership but a series of instruments ranging from cultural cooperation to trade negotiations. In such cases, asymmetrical relationships between both areas may have an impact on policy-making and must be kept in mind for the empirical analysis.

2.4.2 Combining sector properties with mechanisms

The four mechanisms of diffusion have now been described and discussed according to the available literature on the subject. The next step is to link the four mechanisms to sector variables. In this thesis, the work of NRAs is central

and sector variables describe the environment and pressures that NRAs face when engaging in policy making in the telecommunications sector. Firstly, the environment variables refer to the main types of channels that regulate the telecommunications environment. Differentiating the environment in which NRAs conduct policy making is central when disentangling the different mechanisms of policy diffusion. However, it must be clarified that in reality, multi-level interactions across a variety of stakeholders take place simultaneously. The complexity and variety of agents in the telecommunications sector have been extensively discussed by authors of telecommunications and media studies. Raboy and Padovani argue that “[w]hat used to be multilateral arrangements amongst state actors has now turned into a highly complex landscape, where states and intergovernmental institutions share the stage with private corporations, standard setting entities, civil society organizations, epistemic, and technical communities” (2010:161). However, to simplify the framework, the environment in which NRAs conduct policy-making activities has been divided into two main categories. The first environment variable is related to the work of NRAs with international bodies, such as the WTO, the ITU or the World Bank. The second environment variable describes the work of NRAs with other NRAs. This includes regulatory groups, such as the Body of European Regulators for Electronic Communications (BEREC), the EMERG or the Independent Regulators Group (IRG). It also includes bilateral cooperation between NRAs, such as memorandum of associations (MoA). The last part of this section details the different actors of the telecommunications environment for a better empirical understanding of the context (Section 2.4.3).

Secondly, pressure variables refer to the main types of motivations faced by NRAs in engaging with policy-making in the sector. The three pressure variables identified in this framework are based on the theoretical definition of the four mechanisms of diffusion. They have a specific resonance in the case of the telecommunications sector. In particular, the need to enhance performance is usual in technology-loaded fields, where the dynamism and sophistication of the sector pushes actors to improve regulation frequently. Secondly, the need to satisfy economic interests in the field is essential. Lastly, supranational institutions may enforce sanctions to ensure states are complying with international regulations. Both sets of variables are equally important to

disentangle the mechanisms of diffusion. The environment reveals the main channels of policy-making and suggests different mechanisms of diffusion linked to the different channels. The pressures faced by NRAs are key to finalising the differentiation across mechanisms. In this thesis, four propositions combine the sector variables and the mechanisms of diffusion. These propositions are based on policy diffusion literature. They create a framework on which the hypotheses have been developed (Section 1.4). Table 1 shows these combinations (firstly shown in Section 1.4, page 24).

Table 1 Sector variables defining mechanisms of diffusion

	Sector Environment		Sector Pressures		
	International regulatory channels	Transgovern mental collaboration	Efficiency	Economic Interest	Sanction capacity
Learning (H₃)	-	+	+	-	-
Imitation (H₄)	-	+	-	-	-
Competition (H₅)	+	-	+	+	-
Coercion (H₆)	+	-	-	+	+

Notes: Values: +: presence of variable is related to mechanism; -: absence of variable is related to mechanism.

Source: Author.

The first proposition (Framework Proposition 1) defines that the capacity to institutionalise economic interests resides in the international bodies regulating the sector. Competition and coercion mechanisms are linked with economic interests and power relationships. In that case, international regulatory channels and economic interests are linked with both mechanisms. The second proposition (Framework Proposition 2) defines that two of the four mechanisms, learning and competition, focus on the improvement of the policies as a priority, whereas the two other mechanisms are not. Imitation mechanisms focus on the leadership and not efficiency. This mechanism aims at copying the actor and not the action. Coercion is not focused on efficiency neither, as the policy change is imposed by an external actor. The third proposition (Framework Proposition 3) defines that sanction capacity distinguishes the competition and coercion mechanisms. Coercion occurs in situations where an international body has the capacity to impose sanctions. The fourth proposition (Framework

Proposition 4) defines that transgovernmental collaboration is central to learning and imitation, where the exchange of information is freer from institutionalised economic interests and risk of sanction. Together the four framework propositions combine the five sector variables to the four mechanisms of diffusion. Each one of the framework propositions is explained and discussed as follows. The empirical discussion of all four framework propositions is given in the last empirical chapter of this thesis (Section 6.2).

Framework Proposition 1: Economic interest and international structures

Economic interests are defined in terms of potential profits in a specific sector. It often leads to conflicting objectives between different actors to maximise their earnings. This thesis argues that sectors presenting large economic interests are likely to be regulated by international bodies. This is due to the potential conflicting nature of profit-oriented sectors. The institutionalisation of economic interests has been embodied from the 1970s in the creation of a global order based on trade, liberalisation and privatisation. This was illustrated by the emergence of international financial and trade institutions such as the WTO and World Bank and the necessary economic restructuring that developing countries needed to embrace in exchange for short term rescue (Simpson, 2008, Humphreys and Simpson, 2008). In this thesis, the relationship between economic interests and the global world order ruling the telecommunications sector since the 1970s and 1980s has been linked to mechanisms of competition and coercion. This is based on the premise that in fields where large economic profits and benefits are at stake, as it the case in the telecommunications sector, conflict may easily arise and so may asymmetrical power relationships. In such cases, international regulatory bodies impose rules to create a worldwide framework and control the developments in the sector. Based on the above, the framework defines that economic interests and international channels of regulations are linked to competition and coercion mechanisms. Table 5 illustrates this relationship.

Table 5 Framework proposition 1: Economic interest and international channels

	Sector Environment		Sector Pressures		
	International regulatory channels	Transgovern mental collaboration	Efficiency	Economic Interest	Sanction capacity
Learning (H₃)	-			-	
Imitation (H₄)	-			-	
Competition (H₅)	+			+	
Coercion (H₆)	+			+	

Notes: Values: +: presence of variable is related to mechanism; -: absence of variable is related to mechanism.

Source: Author.

The role of international regulatory channels in policy-making is discussed extensively in academic research. It is accepted that international regulatory bodies have a role in policy-making (Rodine-Hardy, 2015). However, their impact must be nuanced. International organisations may have the power to persuade, coax, push, or force governments to adopt policy blueprints or ideas they advocate (Weyland, 2006:2). They may also be used by individual countries to conduct coercive practices (Shipan and Volden, 2008:843). However, the power of international organisations is not always constraining and not every international organisation possesses an enforcement capacity. For instance, Weyland mentions that external pressures matter but are far from decisive, since loan conditionality may constrain government decisions, but by no means determine the outputs (2006:3-4). To conclude, international regulatory bodies may create a channel for power relations to take place. As such, they are linked to economic competition and can be linked to sanction mechanisms, which is discussed later on. The sanction capacity of such organisations however is not always straightforward and needs careful analysis.

Various categories of international bodies exist in the field of telecommunications. Three main international actors are part of the international regulatory landscape and are discussed in next section. The ITU encompasses state and non-state actors, the private sector and NGOs. It does not possess sanction power, but its regulation on radiocommunications is followed worldwide. The WTO is a multilateral organisation among member states. The

inclusion of the telecommunications sector into the GATS has dramatically changed the way nation states are used to regulate the sector. Finally, the World Bank has offered a series of best-practices intended to share knowledge on the sector. In this thesis, they are part of the same category as they represent an environment characterised by international cooperation with or without sanction power, even if they are in fact, not similar at all in their structure and scope. A presentation of the different international regulatory bodies active in the telecommunications sector is given in the next subsection (Section 2.4.3).

The role of economic interests has also been discussed extensively in academic literature. It includes the role of the corporate sector, including private and public domestic and multinational companies and the potential for profits in the policy making process (Braithwaite and Drahos, 2000, Bütthe and Mattli, 2013). Corporate actors and interests have an impact on a national level and crystallise in international organisations directly, for example with their participation in the ITU and indirectly with the opening of markets through the World Bank and WTO (Braithwaite and Drahos, 2000, Coddling, 1995). The influent role of economic interests in developing the telecommunications sector has also been debated (Krasner, 1991, Gruber and Koutroumpis, 2013). In this thesis, the focus on corporations in the telecommunications sector is on fixed and mobile phone companies. A particular interest is set on multi-national corporations and their linkages with standardisation across countries.

In MENA countries, several multinational European consortiums are or have been present, such as the British company Vodafone, the French consortiums, Orange and Vivendi and the Spanish Telefonica. Several companies have origins in the oil-rich Gulf countries, such as the Emirati Etisalat, the Kuwaiti consortium Zain and Batelco, a Bahraini company. For instance, a rich complexity of multinational actors is based in the field and present interesting policy-making objectives and capacities. Several authors underline the role of corporations in the policy making process. This is unambiguous in the context of telecommunications. For instance, Humphreys and Simpson argue that business lobbies have an impact on policy making in the sector of telecommunications (2008:855). According to Bennett, multinational businesses have a part in diffusion, for example when they intend to secure a common

regulatory framework for a certain product (1991:228). Several authors also underline the role of corporations in telecommunications regulation and international standardisation (Braithwaite and Drahos, 2000:342, Bütthe and Mattli, 2013:208). In this thesis, the corporate sector and corporate interests are naturally linked to competition mechanisms as the aim is to engage with policies that will enhance profit or favour certain actors facing competition.

Framework Proposition 2: Efficiency versus Leadership

In this thesis the concept of efficiency is proposed in opposition to the concept of leadership. This is based on policy diffusion literature, distinguishing the focus of policy-makers on the efficiency of a certain policy or on the actor who has implemented it. This distinction is useful to the framework of policy diffusion, as it allows a distinction between learning and competition on one side and imitation and coercion on the other. Learning is directly linked to the idea of efficiency, due to the importance for the policy-maker to improve the status-quo (Meseguer, 2005, Shipan and Volden, 2008, Rose, 1991). Competition is also considered as a focus on efficiency, as the aim is to improve market conditions for the actors involved in the policy process (Elkins and Simmons, 2005). In imitation mechanisms, the focus on the actor is the best example of a mechanism based on leadership rather than efficiency (Shipan and Volden, 2008, Shipan and Volden, 2012, Dobbin et al., 2007). Finally, coercion is not linked to performance as it reflects an act of external imposition independently from domestic motivations to improve the policies in a specific sector (Dobbin et al., 2007). Table 6 illustrates this relationship.

Table 6 Framework proposition 2: Efficiency versus Leadership

	Sector Environment		Sector Pressures		
	International regulatory channels	Transgovern mental collaboration	Efficiency	Economic Interest	Sanction capacity
Learning (H₃)			+		
Imitation (H₄)			-		
Competition (H₅)			+		
Coercion (H₆)			-		

Notes: Values: +: presence of variable is related to mechanism; -: absence of variable is related to mechanism.

Source: Author.

The role of efficiency has been discussed extensively in academic research. It refers to the premise that efficiency or performance seeking is the main aim of engaging in policy-making. Engaging in policy diffusion activities is understood as an objective to bridge the performance gap. The idea of performance is closely related to the telecommunications sector, as it is a technology intensive sector. It is linked to the idea of efficiency and the need to address a regulatory failure. Rodine-Hardy argues that a performance shortfall may create possible pressures for reform (2013:67), underlining the importance of performance in policy-making. In this research, performance is directly linked to learning mechanisms as there is a coherent link between learning and the need to address a failure domestically. However, addressing a performance gap may also be the aim of the corporate sector. Corporations may want to adapt regulatory frameworks to develop their product or gain market access. The variable of efficiency is not linked to imitation, as a country is engaging in policy diffusion to follow a leader and not because of the efficiency of a policy itself. This follows the argument that in some cases, enhancement of efficiency is only secondary in diffusion mechanisms. On the contrary, following the perceived leader is interesting to legitimise policy-change (DiMaggio and Powell, 1983:147;154-5, Radaelli, 2004:728). The idea of legitimising policy-change is closely linked to constructivism and the idea described by Hall, that the policy process is a response to societal pressure (1993:275-6). The premise that policy-makers must build societal consensus is also supported by Evans, who argues that in developing and developed countries, a societal consensus must

be built across elites and masses on programme imperatives to ensure effective implementation (2006:486-8). The efficiency variable is not linked to coercion either. In such cases, the policy change is imposed from an external actor and is not originating from a decision to improve the domestic policy.

Framework Proposition 3: Sanction capacity and coercion

In this thesis, the role of sanctions or the risk thereof is directly linked to coercion mechanisms. It represents a situation where asymmetrical decision-making or the existence of a power asymmetry between the policy making and the policy adopting country is framing the policy change. Bennett mentions that coercion is linked to the absence of autonomous decision-making by the adopting state (1991:227). However, it is important to understand coercion as a complex phenomenon and not as a mere use of power against certain countries. In fact, coercion and sanctions in regulatory and policy-making situation is far less obvious than the use of force. The role of sanctions has had a key role in authors discussing mechanisms of diffusion and policy making in general. Coercion can take many forms, notably through conditionality, the manipulation of costs and benefits or the manipulation of information. In such complexity, the risk of sanctions can be difficult to pinpoint. It is nevertheless directly related to the mechanisms of coercion. The main differentiation of the risk of sanctions resides in the potential for enactment of the sanctions by the policy making body. To identify the potential for enactment of a sanction, careful analysis of empirical cases using policy documents, legal cases and expert interviews is essential. Table 7 illustrates this relationship.

Table 7 Framework proposition 3: Sanction capacity and coercion

	Sector Environment		Sector Pressures		
	International regulatory channels	Transgovern mental collaboration	Efficiency	Economic Interest	Sanction capacity
Learning (H₃)					-
Imitation (H₄)					-
Competition (H₅)					-
Coercion (H₆)					+

Notes: Values: +: presence of variable is related to mechanism; -: absence of variable is related to mechanism.

Source: Author.

The potential for sanction in the telecommunications sector has not been extensively discussed in the literature. Several authors agree however that the question of sanctions in the sector is key as much as it is ambiguous. It gives an interesting insight into the potential for coercive mechanism to be observed. In the sector not many international bodies possess a sanctioning power legally. This is the case of the ITU. The WTO, however, possesses a dispute settlement mechanism (DSM), which represents a potential for sanctions. The World Bank does not possess a legal sanctioning power in terms of telecommunications regulation, but it does however possess the capacity to lay down conditions in exchange for aid (Rivlin, 2001:82). These three cases are very diverse in the way they function and ensure their policies are respected. According to Rodine-Hardy, the role of coercive agents in the telecommunications sector has been overstated. She states, that theories considering international organisations (the WTO, the EU) and ‘big states’ (the US, France) as coercive agents overlook the subtler power dynamics involved in policy processes (2013:40-1). She also mentions the need to observe the practices of adopting countries, which may vary substantially in their implementation of the received wisdom (Rodine-Hardy, 2013:40-1). Sanction capacity in the sector of telecommunications may be more subtle than expected. As such, an international regulatory framework alone does not allow the conclusion that coercion is taking place. It is essential to observe the decisional power inside an international organisation to gain a more precise idea about power alliances and the margin of actions of less powerful states.

Framework Proposition 4: Transgovernmental framework

In this thesis, the variable of the transgovernmental framework is proposed as a counterweight to the variable of the international framework. It is argued that in transgovernmental collaboration, the motivation is not linked to the asymmetrical relationship of powers, as is seen in coercion and neither is it linked to economic interests. Conversely, the relationship between transgovernmental collaboration is linked to mechanisms of learning and imitation, where the engagement in this channel comes out of a desire to change a policy with no economic or sanctions pressure. Table 8 illustrates this relationship.

Table 8 Framework proposition 4: Transgovernmental framework

	Sector Environment		Sector Pressures		
	International regulatory channels	Transgovernmental collaboration	Efficiency	Economic Interest	Sanction capacity
Learning (H₃)		+			
Imitation (H₄)		+			
Competition (H₅)		-			
Coercion (H₆)		-			

Notes: Values: +: presence of variable is related to mechanism; -: absence of variable is related to mechanism.

Source: Author.

The role of transgovernmental collaboration in policy-making has been discussed extensively in academic literature on transgovernmental communities. The denomination of the concept itself is of extreme diversity and different definitions coexist and overlap, such as epistemic communities, professional networks or elite networking. Policy communities are said to have a key role in policy making from raising the awareness on a special issue to formulate and articulate adequate policies (Savage, 1985:8, Mintrom, 1997:738, Dobbin et al., 2007:456). Bennett argues that transnational groups of actors share motivation, expertise and information about common problems, which leads to convergence (1991:224). More precisely, in the technological fields such as telecommunications, the concept of technocratic experts is interesting. Evans and Davies introduce the notion of policy transfer networks, which are

mainly ad hoc and only exist with the intention of engineering policy change (1999:374-7). In this case, the focus on knowledge being deployed by a limited set of experts is key (Dunlop and Radaelli, 2012:5-6, Rose, 1991:15-6). The discussion is narrow and pretends to reach an appropriate technical policy solution. The concept of transnational policy networks, encompassing the focus of specific knowledge networks run by a restricted set of experts is appropriate to this thesis and is linked in a priority order to learning mechanisms, but also imitation mechanisms, due to the better visibility of leaders in such communities.

In the telecommunications sector, regulatory groups are delimited by regions such as BEREC or EMERG or by languages, such the French-speaking Telecommunications Regulation Network (FRATEL). This variable also encompasses bilateral agreements among two or more countries, such as MoA. These are revealing to see who are the main partners of the Jordanian, Moroccan and Egyptian NRAs. An interest is put on the role of the EU member states and other major states, such as the US in the policy-making process. However, as Rodine-Hardy mentions the role of the EU and “big states” such as the US and France shall not overshadow subtler power dynamics involved in policy processes (2013:40-1). Transgovernmental regulatory forums are thus key locations to observe the dynamics of policy-making. EMERG is a case in point, as all three NRAs of the case studies are part of it, as are most of the EU member state countries. A presentation of the different transgovernmental channels active in the telecommunications sector is given in the following subsection.

2.4.3 Illustrating the telecommunications environment

Several comments have already been given to contextualise the main actors of the telecommunications sector. A short historical and factual account of the main international and regional frameworks, as well as the main Euro-Mediterranean regulatory groups in the field, is nonetheless useful to ground the conceptual framework and empirical chapters. This is notably the case, as the telecommunications sector has experienced dramatic changes in the last few decades. Understanding these changes and the impact on the sector nowadays is essential to grasp the characteristics of the sector since the millennium. The

main actor to have come across radical regulatory, economic and governance pressures is the state. The telecommunications system evolved from state-owned monopolies to liberal market economies. The sector increasingly became viewed as a free-trade issue, ruled under competition law.

The role of international bodies in the telecommunications sector also developed intensely. This is notably the case of the World Bank, the IMF and the WTO. They have had a key role in the evolution of the telecommunications sectors across the world, but they also experienced their own development. For instance, the ITU evolved dramatically since its first inception. Drake and Noam argue that the ITU's role changed from the 1980s, in particular due to the emergence of the WTO, as a new actor in the telecommunications sector (2000:48). The consolidation of the GATS regime under the 1995 WTO agreement represented a turning point in the multilateral governance of telecommunications. The ITU had longed encouraged cooperation between international regimes to fade out international competition, but it was soon overthrown by the competitive framework of the GATS. The ITU however, still maintains a central role in terms of technical standardisation, frequency management and assistance to developing countries. The World Bank also embarked on a liberalised promotion of the telecommunications sector and the World Bank handbook on telecommunications published in 2000 confirmed the interest in broadening best-practices in the field based on competition (World Bank, 2000). The World Bank, IMF and WTO are the three main international regulatory bodies assessed in this thesis.

Finally, transgovernmental collaboration has developed drastically to become nowadays one of the main channels for regulatory cooperation in the field, proposing an alternative to international regulatory bodies. This section aims at presenting the different bodies that form part of the Euro-Mediterranean telecommunications sector nowadays. Table 9 gives a selection of the main regulatory actors and instruments present in the Euro-Mediterranean telecommunications landscape.

Table 9 Policy-making channels & instruments

International frameworks	Transgovernmental frameworks
ITU - Radio-Regulations, WRC	EU-MED – EMERG, Telecom Twinning
World Bank - Handbook	EU – BEREC, IRG*
WTO - Reference Paper, DSM	Various bilateral agreements (MoA etc)

Notes: *BEREC and IRG are not discussed separately. They are integrated in discussions surrounding EMERG.

Source: Author.

This section firstly examines three international regulatory frameworks, the ITU, World Bank and WTO. It then focuses on channels of transgovernmental collaboration. Based on the regional focus of the Euro-Mediterranean telecommunications space, two forums are explored, the EMERG and the twinning projects in the telecommunications sector. MoA between NRAs are also included in this category. It is moreover essential to mention the work of two bodies central to EU telecommunications regulations, BEREC and IRG. Both are discussed in relation to the EMERG.

International regulatory frameworks

The ITU is the main regulatory body in the field of telecommunications. It is one of the first international regulatory bodies and was created 150 years ago. This associative forum consists of more than 190 members and more than 700 sector members and associates (ITU, 2015a). It is now part of the United Nations and is headquartered in Geneva, using a one-nation, one-vote system. The ITU is the descendant of the International Telegraph Union, which was established in 1865. Originally, it was perceived as a forum to coordinate the technical operations of the telegraph and soon included telephone and radiocommunications systems as well (Renaud, 1990:37). It merged in 1932 with the International Radiotelegraph Union to become the ITU. The ITU was completely restructured in 1992, with three sectors dealing with spectrum management, standardisation and development.

It is in the context of a telecommunications sector run by state-owned monopolies that the ITU was created. According to Renaud, from the beginning,

nearly all national governments asserted almost total control over communications, which explains why public international organisations such as the ITU were created (1990:40). In fact, several authors argue that the ITU used to be a comfortable clubhouse between state-owned monopolies. However, it evolved to become a platform of best-practice sharing, dialogue enhancement and representative of a growing diversity of stakeholders (Rodine-Hardy, 2013:34, Drake and Noam, 2000:48). The ITU's direct relevance to this thesis relates to its regulatory framework on spectrum. It proposes a wide array of policy tools to implement certain best practices and ensures a practical use of spectrum around the world. It notably hosts influential international conferences including the World Radio Conference (WRC) and the World Summit on the Information Society (WSIS). One of the most recent and important decisions of the ITU was made during the 2012 WRC regarding the additional allocation of spectrum for mobile services (discussed in Sections 4.2.2 and 6.2).

The WTO framework for the telecommunications sector only appeared later. The GATS, which was created by the Uruguay Round from 1986 to 1995, is a key milestone in the field (Blouin, 2000, Koenig et al., 2009:11). The GATS proposed a series of principles which were applicable to the telecommunications sector as well. Such principles include the most favourable nation treatment (MFN) principle, meaning that WTO members shall not discriminate among each other, except if an exemption has been agreed. Other principles comprise transparency, disclosure of confidential information and increasing participation of developing countries (WTO, 1995b:art.II-XV). Following the Uruguay round negotiations, a group of 22 WTO member governments, the Negotiating group on basic Telecommunications (NGBT) intended to extend liberalisation to the sector to include current reforms in regulatory regimes and advances in technology. As the talks were never completed successfully, the group was joined by 24 other WTO members created in 1997, the Group on Basic Telecommunications (GBT) (WTO, 2014). The GBT created the fourth protocol including the schedules and MFN exemptions lists in 1998. The GBT deal is not embodied in a separate regime or treaty. It is embodied in the GATS, as a part of the existing regulatory framework.

In parallel to the GBT deal, several members expressed interest in elaborating on a set of principles to cover matters such as competition safeguards, interconnection guarantees and the independence of regulators. This was negotiated in a text called the 1996 Reference paper (WTO, 1996). It sets the regulatory principles for the establishment of fair market conditions. As most WTO members accepted the commitment, this reference paper became part of the international treaty and became binding to WTO members. According to the World Bank handbook on telecommunications the Reference paper was negotiated jointly by trade and telecommunications officials and largely reflected best practice in pro-reform telecommunications regulation (World Bank, 2011:21). It includes six principles regarding competitive safeguard, interconnection, universal service, public availability of licensing criteria, independent regulators and allocation and use of scarce resources (WTO, 1996). The WTO is interesting in this thesis for two reasons. Firstly, it changed the telecommunications sector as it applied its liberalisation principles to a regime previously marked by the government monopolies. The inclusion of the telecommunications sector within the WTO illustrates this change of regime. Furthermore, the WTO has a particular importance due to its DSM, which is unique in the sector. No other international regulatory framework possesses such enforcement capacity. The scope and importance of the DSM is discussed in detail in the last empirical chapter of this thesis (Section 6.2, Framework Proposition 3).

Finally, the World Bank is also one of the international bodies framing regulation in the telecommunications sector. However, the World Bank is mostly, if not only, a framework for best practice sharing in terms of specific policies. The World Bank had a key impact on economic reforms from the 1970s in developing countries, where financial aid was proposed in exchange for drastic reforms including the opening of markets, privatisation and liberalisation. In this case, policy reforms corresponded to coercion mechanisms (Section 5.2). Nowadays however, the World Bank does not have a similarly coercive role as it used to have in the 1970s. As Rodine-Hardy mentions, in the field of telecommunications, the World Bank has become a key forum for best practice sharing (2013). It publishes renowned documents sharing best practices and reviewing most recent trends in the sector (World Bank, 2011 , World Bank,

2014a). Its 2000 handbook and the re-edition of 2011 is in line with the World Bank's goals to promote economic development (World Bank, 2011, World Bank, 2000)⁷. However, the handbook does not foresee sanctions to ensure the implementation of its suggestions. These are guidelines to develop the sector.

Transgovernmental frameworks

Transgovernmental collaboration takes place across a wide number of channels. In many cases, countries sign MoA between two NRAs. Such memorandum are taken into account in this thesis, however a particular focus is set on transgovernmental channels, such as regulatory forums, due to their possibility of acting as a forum for shared-practices among a small group of NRAs. Numerous transgovernmental networks surrounding the telecommunications sector exist, most of them are networks built on regional alliances, such as the Arab Regulators Network (AREGNET). There are also several based on a shared language, such as the French-speaking regulatory forum FRATEL. In this thesis however, the focus is on two forums encompassing both European and MENA NRAs. This is the case of EMERG and the Euro-Mediterranean telecommunications twinning projects. These projects are not formally a transgovernmental forum but represent an alliance of several NRAs following a mutually agreed work plan in the field. They provide an interesting institutional setting for policy-making. Both EMERG and Euro-Med twinning projects have had overlapping fields of policy-making, however the approaches are radically different. For instance, the analysis of both institutional approaches is interesting when discussing cross-national regulatory exchanges.

⁷ The World Bank handbook addresses issues, such as the technological context surrounding telecommunications, the role of regulatory organisations and international frameworks. It also addresses the need to regulate to achieve effective competition. Furthermore, several chapters address the question of licensing, spectrum management, interconnection and universal access (WORLD BANK. 2011. *Telecommunications regulation handbook; 10th Anniversary Edition* [Online]. Available: http://www.itu.int/dms_pub/itu-d/opb/reg/D-REG-TRH.01-2011-PDF-E.pdf [Accessed August 8 2015], WORLD BANK. 2000. *Telecommunications regulation handbook* [Online]. Available: http://www.infodev.org/infodev-files/resource/InfodevDocuments_22.pdf [Accessed August 8 2015].)

In this thesis the focus is put on the Euro-Mediterranean relationship in the telecommunications sector. This decision has been motivated earlier and can notably be explained by the increasing role of the EU institutions and specifically the EC as a key regulatory power in the field surpassing the EU borders (Michalis, 2007:143). Since the mid-1980s, the EU telecommunications sector has undergone dramatic changes and gone through effective liberalisation, with competition law becoming the main source of regulation for the sector (Simpson, 2008:106-7). Furthermore, telecommunications regulatory reform and harmonisation between the EU and the Southern Mediterranean partners have taken place under various initiatives since the 1990s. In 1996 a Conference on Euro-Med cooperation for the information society was organised to discuss regional approaches to the information ICT, focusing on services and infrastructures (Euro-Mediterranean Meeting of Ministers, 1996:1). This materialised in the NATP programmes.

The NATP programmes were founded by the European Commission in 2001. The first one, NATP-I, focused on broader policy goals and the benefits of liberalisation of the telecommunications industry. NATP-II followed in 2005 and focused on the practical implementation of regulatory reform. It combined regional components with direct and practical bilateral technical assistance to NRAs. NATP-III lasted from 2009 to 2013, but the project changed in scope and focus, due to the cutting of funding of the NATP programmes at the time. The NATP-III was aimed essentially to support the creation of the EMERG in 2008 and opened EMERG's membership to all NRAs enlisted in the 2008 Malta Declaration, member of BEREC or of the Southern European Neighbourhood Policy (ENP) countries (EMERG, 2012a:art.2)⁸. It now comprises of around 20 NRAs of both the EU and the Southern Mediterranean areas.

⁸ Countries of the Southern Mediterranean shore are Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, the Palestinian Authority, Syria and Tunisia. Turkey was initially a beneficiary of NATP-II programme, but as a candidate country to EU accession, it is no longer part of the beneficiaries of NATP-III. Countries of the European area are Austria, Cyprus, France, Germany, Greece, Italy, Malta, Portugal, Spain and Switzerland. Algeria and Malta have not participated to EMERG since 2008 and 2009 respectively (EMERG. 2012b. *Towards Sound and Efficient Regulatory Frameworks for a Healthy Electronic Communications Sector in the Euro-Mediterranean Region* [Online]. Available: http://www.emergonline.org/index.php?option=com_content&view=article&id=5&Itemid=39 [Accessed Nov 11 2015]. & EMERG. 2008. *Statement on the Founding of a Network of Euro-*

Until 2014, the NATP-III worked as a logistic body for EMERG until it became autonomous with an established secretariat and structure hosted by the Portuguese NRA ANACOM. The EU diminished its funding since the end of NATP-III but remains, however, close to the development of EMERG. A parallel can be made between the EMERG and BEREC, which was created in 2006. BEREC replaced the European Regulators Group (ERG) as a pan-European platform for NRAs to ensure a consistent application of the EU regulatory framework⁹. One of its main novelties is the presence of the EC as a member, which has been accepted with criticism by EU member states, as the heavy hand of the EC into the telecommunications sector (Michalis, 2007:214). The parallels between BEREC and EMERG take place on a variety of levels, including aims and agenda. Enhanced cooperation has been institutionalised between both groupings. In 2014 a Memorandum of Understanding was signed between EMERG and BEREC foreseeing the planning of an annual joint meeting. Furthermore, one of the aims of the 2015 EMERG Work Plan was indeed, to reinforce cooperation with BEREC and hold joint-workshops. In EMERG, however, the EC is not a member, even if members of DG Connect are regularly invited as observers. In fact, the cooperation with the EC is one of the strategic aims of the 2015 EMERG work-plan as well, notably with the objective to launch further EC funding of EMERG programs (EMERG, 2015). It can be observed that regarding EMERG, the EC and BEREC are closely followed.

The telecommunications twinnings between EU and Mediterranean NRAs are the second type of transgovernmental channels observed in this thesis. They aim to enhance the organisation and competences of NRAs of several countries of the Southern Mediterranean shore. They are instruments of institution

Mediterranean Regulators [Online]. Malta. Available: http://www.emergonline.org/index.php?option=com_content&view=article&id=5&Itemid=39 [Accessed Nov 11 2015].)

⁹ BEREC is composed by one member per NRA and the EC representatives. Non-voting observers include the EC, EFTA countries (Iceland, Liechtenstein, Norway, and Switzerland) and EU candidate accession countries. It is supposed to enable cooperation and sharing of best practices among NRAs. It can also advise the European Parliament, the EC and the Council and provide non-binding opinions on EC's working documents (EUROPEAN PARLIAMENT & EUROPEAN COUNCIL 2009c. Regulation (EC) No 1211/2009 of the European Parliament and of the Council of 25 November 2009 establishing the Body of European Regulators for Electronic Communications (BEREC) and the Office. *Regulation (EC) No 1211/2009.*)

building built around EU policy objectives¹⁰. Lavenex states that twinning projects are transgovernmental channels of promoting approximation to the EU *acquis communautaire* where member states officially visit public administrations of ENP countries in order to promote administrative and legislative reforms in line with the EU (2011:385). They were introduced in 1998 in the EU enlargement context to support the implementation of the EU regulation in CEE states. They were progressively extended to ENP countries from 2004 onwards to implement the association, partnership and cooperation agreements (European Commission, 2012b). Twinning projects usually consists of two or three European countries sending experts jointly to a third ENP country in order to achieve practical results.

This form of collaboration is innovative as the beneficiary country retains the ownership of the project until its final completion. Furthermore, the beneficiary country commits to achieve results. This is different than in EMERG, where no practical and observable result is expected, at least in the short term. A similarity with EMERG exists regarding the role of the EC. In twinning partnerships, the EC is not included neither among the participating NRAs. In both twinning projects and EMERG, however, the EC funds the full (twinning) or partial (EMERG) expenses. In the case of twinning projects as well as in EMERG, the EC is in fact closer to the grouping as it may appear, as in both cases, EU NRAs convey regulations that take their origins from EU regulation.

¹⁰ Twinning partnerships aim at fulfilling an objective related to one or more priority areas set out in the Actions Plans. In the context of telecommunications policy, the Jordanian NRA twinning projects aimed at supporting the EU-Jordan Action Plan, in particular in implementing legislative reforms and regulatory alignment of policies. For example, Action 29 of the Jordanian Association Agreement states that regional cooperation shall be supported in various regional projects, such as environment, energy, telecommunications and transport. Action 56 states that Jordan should enhance the development and use of Information Society applications, take steps to liberalise the market for fixed voice telephony, work towards harmonising licensing access, interconnection or universal service and implement plans on e-Government, e-Commerce and e-Finance. In this context, the NRA twinning project planned a variety of areas of work including, the planning of the digital switchover (EUROPEAN COMMISSION 2012a. Final Report, Evaluation of the Institutional Twinning Instrument in the Countries covered by the European Neighbourhood Policy. In: BOUSCHARAIN, G. & MOREAU, J.-B. (eds.) Project No. 2010/249504. HTSPE Limited. & EUROPEAN UNION & HASHEMITE KINGDOM OF JORDAN. 2005. EU-Jordan Action Plan [Online]. Available: <http://www.enpi-info.eu/library/content/eu-jordan-enp-action-plan> [Accessed Dec 12 2015].)

2.5 Conclusion

The aim of this chapter was to detail the theoretical framework of this thesis to support the systematic analysis of the main research question and two subquestions. The theoretical and conceptual framework of this thesis is grounded mostly on policy diffusion literature, but other literatures were also used, such as lesson-drawing and constructivism. The characteristics of the telecommunications sector is also central to the framework and the chapter reiterates several key features of the field, which need to be taken into account, notably for generalisability. Further discussion regarding the limits and the generalisability of the framework can be found in the final chapter (Section 7.3 and 7.4). The first section of the chapter gives methodological and theoretical tools to observe policy adoption. This is linked to the use of the product and process of policy adoption. This means that there must be a clear and observable similarity between two policies (the product). In addition, the process of adoption must show an interaction between the policy making country and the policy adopting country (the process). Only then, can it be concluded that policy diffusion has taken place. Based on the results of the first part of the theoretical and conceptual framework, the two additional foci of the thesis, discussing state and sector specific variables, can be analysed.

The next section introduces the second step of the framework. In this part, four state variables are identified to answer the first subquestion: under which conditions do countries adopt a policy that originated externally. The focus on the conditions leading to policy diffusion is discussed from the adopting side of diffusion. As such, the operationalisation of the state characteristics is linked to the vulnerability and interconnectedness of the adopting states with the *giving* state. This focus, while key to policy diffusion, only operationalise half of the process, as the policy giving countries are not systematically conceptualised in this thesis. The interest to confront both sides and understand mechanisms of diffusion from the perspective of the policy giver country could be the focus of further research.

The third and last section of the chapter finalises the third step of the framework. This part focuses on sector variables and their use to disentangle mechanisms of diffusion. The operationalisation of the sector variables is closely linked to the telecommunications sector and epitomises its

characteristics of being a technology and investment intensive field, where the sophistication of policy-maker actors is required. This field is characterised by the presence of NRAs underlining the emergence of soft governance to conduct policy making in technical fields. This last section firstly describes the four mechanisms of diffusion and conceptualises each of them. It then discusses the four framework propositions on which the mechanisms of diffusion framework is built. The propositions link five selected sector variables to the four mechanisms of diffusion. Each of these variables is detailed in this section and discussed in relation to policy diffusion literature. Finally, the chapter gives an overview of the main actors of the telecommunications sector. This contextualisation is based on recent changes in regulation and roles of international and regional bodies in the field to support the empirical analysis of Chapters 3 to 6.

3 CHAPTER 3 – Methodology

3.1 Introduction

This chapter details the methods used to conduct the empirical research based on the three-step framework addressed in the previous chapter (Chapter 2). It also discusses the measurements of the above-mentioned state and sector variables. The main source of data in this thesis originates from expert interviews conducted mainly from September 2013 to April 2014 during two different field trips. The first one took place in Europe, from Brussels mostly and the second one took place in each one of the three selected country cases, Morocco, Jordan and Egypt. Experts from the telecommunications sector and experts involved in Euro-Mediterranean relationships were consulted as a priority. In total, 52 experts have provided the information on which this thesis is built. As such, the three-step framework of this thesis, focusing on the observation of policy diffusion, the conditions behind the adoption of policies and the disentanglement of the four mechanisms of diffusion, use the data gathered during field research. Each part, however, uses the information in a different way, which is explained in detail in this chapter.

The methods in policy diffusion research are important, as several authors mention the difficulties of conducting empirical policy diffusion research. Meseguer and Gilardi argue that testing diffusion mechanisms is challenging due to bias and limitations. For instance, homogenising assumptions do not reflect the complex nature of causal processes, as any mechanisms are both equally relevant and irrelevant across a variety of cases (2009:531-3). This is one of the reasons why qualitative methods are used to analyse policy diffusion in this thesis, as quantitative methods might hinder the heterogeneity of the phenomenon. Sugiyama illustrates this point arguing that large-n event history models can account for the likelihood of policy adoption, however statistical modelling might obscure the heterogeneity of diffusion decisions (2012:32). For instance, the methods and sources, which are outlined in this chapter, are based on a combination of qualitative techniques, using comparative case studies and expert interviews mostly, to account for the heterogeneity of real case scenarios.

This chapter is divided into two sections. The first one presents in detail the selection of methods and sources. It articulates the use of case studies, followed by a detailed account of expert interviews, reviewing the selection and types of experts and the structure of the interviews. It is followed by considerations regarding research ethics, data storage and the use of qualitative software. Finally, a selection of secondary and primary sources, including laws and regulations, statistical databases and academic research on telecommunications and Euro-Mediterranean relations is given. The second section focuses on the measurement of the dependent and independent variables. The dependent variable, in this thesis, is defined as the act of adoption. It takes four different shapes, according to which mechanism—learning, imitation, competition, coercion—has taken place. The independent variables are linked to four state and five sector variables as mentioned earlier. They are measured using different sources and methods. Two state variables, government openness and market openness are measured through the use of indexes created by the World Bank and the Bertelsmann Foundation. The two remaining state variables, political and market interconnectedness are measured using statistical data from the World Bank and the Organisation for Economic Co-operation and Development (OECD). The sector variables are measured using a qualitative approach to analyse the interview data.

3.2 Selection of methods and sources

3.2.1 Case studies & Expert interviews

In this thesis, cross-case comparative analysis is used to test qualitatively a selection of variables across Egypt, Morocco and Jordan, in two sectors, USO and spectrum management. According to Starke, cross-case analysis means the systematic investigation of qualitative similarities and differences of values on theoretically relevant variables across several cases (2013:567). He argues that drawing inferences from controlled contrasts between a small number of carefully chosen cases provides a useful tool for the analysis of policy diffusion (2013:569). Appreciating qualitative similarities and differences across the six cases selected in this research is at the core of this thesis. Policy diffusion is analysed using qualitative methods uniquely. This is based on the assumption

that qualitative methods may bridge the gap of quantitative methods, which cannot account for unquantifiable information and the heterogeneity of cases. This is supported by Weyland, who underlines the importance of qualitative methods, such as intensive field research. He argues that the burgeoning statistical analyses have undoubtedly made important contributions, but often suffer from indicators of questionable validity (2006:14). For instance, the focus on six case studies composed of three countries, Morocco, Jordan and Egypt and two policy sectors, USO and spectrum management represents an interesting and complex environment, where the use of qualitative methods is appropriate.

In this thesis, expert interviews provide the main source of original data to compare the selected cases. The use of expert interviews is appropriate for qualitative methods. Sugiyama underlines the role of broad qualitative sources, such as governmental bulletins, international organisation publications and archival records, in addition to semi-structured interviews with key actors at municipal, state and national-levels, to account for the heterogeneity of cases (2012:33). The selection of experts has been broad and extensive and focused on a variety of key actors, embracing different roles in the field, such as employees of regulatory agencies, technical organisations, business operators and ministries. The relevant experts were selected after reading reports linked to the telecommunications sector in the Euro-Mediterranean area. Reports from the European Bank for Reconstruction and Development (EBRD), WTO or ITU were useful in gathering key names in the field. In addition, the minutes and reports of EMERG, as well as twinning fiches between EU countries and both Jordan and Egypt were interesting sources of information, providing the contact details of the main project leaders. These relatively recent documents, dating back at the latest to 2005, often provided a valid email address. Furthermore, the mentioned experts in the reports were often still working in the same offices, which facilitated the contact with them. In addition, discussions with my supervisor at the University of Exeter, Professor Alison Harcourt and with my supervisor during the exchange programme at the Vrije Universiteit Brussels (VUB), Dr Jan Loisen, complemented this list with contacts at the European level.

To identify more experts in the field, the snowball method was used. The snowball method supports the identification of additional experts to be met, by referral of the already interviewed people (Berg, 2009:51). This method has proven very useful for two main reasons. Firstly, the method was useful to understand who were the key experts in the field and to create a relevant network. Secondly, the snowball method was helpful to secure interviews with further experts, as often, and in particular in the MENA region, the interviewed experts contacted their colleagues directly at the end of our meeting in order for me to meet them as soon as possible. This introduction method created an invaluable technique to gain time to understand who were the main experts in the sector and convince them to participate to the interviews.

In practice, the field research was divided into two phases. The first one took place mostly in Brussels and focused on European experts. The second one took place in Morocco, Jordan and Egypt and mostly focused on local NRAs. In addition to being geographically divided into two distinct phases, the field research also aimed to look at different objectives. The first field research in Europe mostly aimed at general questions and focused on understanding the Euro-Mediterranean relationship from a broad angle. The second field research mostly focused on technical questions and studied the policies in detail. Both phases are addressed in more details below. Most experts were contacted only once, however, as the research developed and the field research got more precise, few additional questions arose, which required a second contact. In such cases, written contacts via email have been the preferred methods for clarification on certain subjects. This has been the case, with most European and MENA NRAs. In total, 22 expert interviews were conducted in Europe. In addition, 30 experts were interviewed in the three country cases of this thesis: 12 experts were met in Morocco, 12 in Jordan and 6 in Egypt. At the end of both field research trips, 52 experts were interviewed, spanning a timeframe from September 15 2013 to April 2014. An additional four interviews were conducted in Europe in June and July 2014. These interviews form the database of this thesis.

European field research (September to December 2013 and June-July 2014)

The first phase of field research occurred mostly from the location of Brussels, Belgium. Taking the advantage of a university exchange with the VUB during the second year of the PhD, a first group of experts were selected for their role in Euro-Mediterranean affairs and when possible in the field of telecommunications. This first phase of field research lasted from September 15 to December 31 2013. Four additional interviews were held between June 18 and July 10 2014, following new snowball suggestions from experts. Most interviews were conducted in Brussels, but some interviews took place in Geneva, Switzerland. In addition, several experts were interviewed through online calling technologies, such as skype, which was the case with experts from Portugal, Denmark, The Netherlands and Italy. In this first phase of experts interviews, the main objectives have been to discuss the Euro-Mediterranean relationship and when possible the Euro-Mediterranean relationship in the field of telecommunications from a general and historical point of view. This contributed to framing the research and understanding which policy items were essential in the field and which were of lesser interest.

The experts from this first phase of field research were categorised into four groups: EU experts, NRA experts, private consultants and international bodies. The first group of experts came from the EU institutions. These experts were chosen for their knowledge and participation in the Euro-Mediterranean policy process generally. A selection of experts came from DG Humanitarian Aid and Civil Protection (DG ECHO), DG Development and Cooperation (DG DEVCO), DG Trade and DG Research. In addition, experts from DG Connect were specifically working on telecommunications issues. Experts from the European External Action Service (EEAS) were interviewed to gain a broader understanding of the EU action in the MENA region.

The second group of experts consisted of three European NRAs: the Italian Authority for Communications Guarantees (AGCOM - *Autorità per le Garanzie nelle Comunicazioni*) and the Portuguese National Communications Authority (ANACOM - *Autoridade Nacional de Comunicações*). Both ANACOM and AGCOM have geographical inclinations towards the MENA countries. AGCOM is moreover closely involved in twinning projects in the telecommunications field and worked with both Egypt and Jordan. ANACOM furthermore hosts the

secretariat and website of EMERG. In addition, the Swiss Federal Office for Communications (BAKOM) was consulted, due to its situation as a non-EU member state, but still closely involved in European regulation approximation.

The third group of experts were chosen for their independent work as consultants in the telecommunications sector. This is the case of Regulaid who is often mandated by the EU to organise telecommunications related projects. The Electronic Communications Committee (ECC)/European Communications Office (ECO) in Denmark was consulted due to its authority in Europe on spectrum regulation. Cullen International in Belgium was interviewed due to their technical knowledge on the sector with a specific expertise on Middle Eastern and North African telecommunications system.

The last group concerned international bodies. One expert from the ITU agreed to participate in an interview for this thesis. Another expert from the European Broadcasting Union (EBU) brought interesting insight regarding the worldwide convergence of media in the audiovisual and telecommunications sector. Concerning the WTO, the World Bank and EBRD, no expert was met, as sufficient reports existed on telecommunications regarding the country cases. As such, these reports are used instead of expert interviews. Table 10 presents the interview codes for each group of experts. The codes are made of two letters, in this case EU, standing for a European country and of a reference number.

Table 10 EU Expert interviews codes

Type	Name	Interview Code
EU experts	DGs ECHO, DEVCO, Trade, Research and Connect	EU1-EU7
	European External Action Service (EEAS)	EU8-EU13
NRAs experts	BAKOM, Switzerland, AGCOM, Italy; ANACOM, Portugal	EU14-EU16
Private consultants	Regulaid, The Netherlands	EU17
	ECC/ECO, Denmark	EU18
	Cullen International, Belgium	EU19-EU20
International bodies	International Telecommunications Union, Switzerland (ITU)	EU21
	European Broadcasting Union (EBU)	EU22

Notes: Interviews made by researcher from September 15 2013 to July 10 2014.

Source: Author.

MENA field research (February to April 2014)

The second phase of field research took place mostly between February 4 and April 15 2014. Interviews were held in person in Rabat, the capital of Morocco from February 4 to March 4 2014 and in Amman, the capital of Jordan from March 20 to April 15 2014. Due to the political situation in Egypt at the time of the field research, only a short stay was planned. Interviews were held in person in Cairo, from April 5 to April 8 2014. The focus of this second set of interviews slightly changed compared to the ones from Brussels. The aim was specifically to enquire about policy diffusion in both selected subsectors of this thesis. Thus precise and focused questions regarding the development of policies, the environment and pressures encountered in policy making were the main drivers of the questions. It aimed at gaining a more precise understanding into the different interactions between the actors in the field from the Mediterranean point of view.

Three types of experts were contacted in MENA countries. The first group of experts, which represents the main source of information from MENA countries, came from experts working for the telecommunications Ministries and the NRAs. The relevant ministries responsible for telecommunications policies were the Moroccan Ministry of Communication (MINCOM), the Egyptian Ministry of Information and Communications technology (MCIT) and the Jordanian Ministry

of Communications and Information Technology (MOICT). The three NRAs, from which most experts were met, were the National Telecommunications Regulation Agency (ANRT) in Morocco, the National Telecommunications Regulatory Authority (NTRA) in Egypt and the Telecommunications Regulatory Commission (TRC) in Jordan. Employees working for both USO and spectrum management were interviewed as a priority, followed by experts working in the sector of international cooperation. Finally, the three chairman and CEOs of the mentioned NRAs were interviewed to understand the general strategies of the NRAs. In Morocco, three experts from the Moroccan High Authority for Audiovisual Communication (HACA) were contacted, as they work closely with the Moroccan Telecommunications NRAs on spectrum issues.

The second group of experts were the national phone companies of each country. In Morocco, Maroc Telecom accepted to participate to an interview. In Egypt, one expert from Vodafone accepted to participate in the field research and in Jordan, all three mobile operators, Orange, Umniah and Zain accepted to be met. The last group of experts were based in EU delegations in all three countries. Table 11 presents the interview codes for each group of experts. As for the European field research, the codes are made of two letters corresponding to each country case and of a reference number. MO stands for Morocco, JO for Jordan and EG for Egypt.

Table 11 MENA Expert interviews codes

Type	Name	Interview Code
Morocco		
Government experts	Ministry of Communication (MINCOM)	MO1
	National Telecommunications Regulation Agency (NTRA)	MO2-MO7
	High Authority for Audiovisual Communication (HACA)	MO8-MO10
Companies	Telecommunications operators (Maroc Telecom)	MO11
EU delegation	EU Delegation in Rabat (EEAS Morocco)	MO12
Jordan		
Government experts	Ministry of ICT (MOICT)	JO1
	Telecommunications Regulatory Commission (TRC)	JO2-JO8
Companies	Telecommunications operators (Umniah, Zain and Orange)	JO9-JO11
EU delegation	EU Delegation in Amman (EEAS Jordan)	JO12
Egypt		
Government experts	Ministry of Communications and Information Technology (MCIT)	EG1
	National Telecommunications Regulatory Authority (NTRA)	EG2-EG4
Companies	Telecommunications operators (Vodafone)	EG5
EU delegation	EU Delegation in Cairo (EEAS Egypt)	EG6

Notes: Interviews made by researcher from February 4 2014 to April 15 2014.

Source: Author.

Semi-structured Interviews

The interviews aimed at exploring the contexts in which certain policies were adopted and others were not. As such, the most appropriate type of interviews, were semi-structured ones. The expert interviews were built around a set of topics that have been discussed with all interviewees, but slightly shaped according to their area of expertise and professional roles. According to Berg, in semi-structured interviews the interviewers is allowed and even expected to digress according to the answers of the interviewees (2009:107). Davies further argues that structuring is a matter of degree. He mentions that “there is a broad, grey area of ‘semi-structured’ interview strategies in which the wording or order

of the questions on the schedule can be altered in real time by the researcher conducting the interview” (2001:76). As such, the semi-structured interviews have been directed in a looser form, relying on a series of topics to be covered and shaped according to the area of expertise of the interviewees and to the interests of the researcher.

Two different sets of questions were chosen corresponding to the two different phases of field research. The set of questions chosen for the first phase of expert interviews aimed at understanding the relationship between the EU and the MENA area in terms of regulatory approximation, both generally and in the telecommunications sector. The covered topics included the existence or non-existence of joint initiatives between both areas. Some questions addressed also the reasons why such initiatives existed or not and the possible motivations of both parties behind such initiatives. The second set of questions more specifically aimed at the selected sector cases, as most of the chosen experts were based in Morocco, Jordan and Egypt and worked directly in policy-making in the sector. The questions directly focused on USO and spectrum policies. The discussions were more technical than in the first set of interviews. The aim was to understand the processes of policy change globally, without focusing on the relationship to the EU, to best understand who all the involved actors in the field were. Table 12 gives an overview of the main semi-structured questions asked according to the two different phases of field research.

Table 12 Selection of semi-structured questions

Field Research	Types of questions
EU countries	<p>What initiatives are taking place between the EU and MENA countries?</p> <p>What has your role been in the above initiatives?</p> <p>How do those initiatives take place (type, frequency of meetings, participants)?</p> <p>What have been the results of those initiatives?</p> <p>What do you think worked well and what not?</p> <p>Why do you think the EU has an interest in cooperating with MENA countries in telecommunications sector?</p> <p>Why do you think MENA countries have an interest in cooperating with the EU countries in the telecommunications sector?</p> <p>What kind of regulatory changes would you like to see and why?</p>
MENA countries	<p>Who are your main partners (countries, regulatory agencies, corporations)?</p> <p>What are the main channels you use to discuss telecommunications policies?</p> <p>Are you part of regulatory groups? Which ones (EMERG, ARAGNET, EU twinnings)?</p> <p>What do you think works well in the above mentioned channels and what not?</p> <p>What do you wish would work better?</p> <p>Do you use models originating from elsewhere? From where? Which ones?</p> <p>What is your peculiarity in the USO/Spectrum management sector?</p> <p>Where do you see differences with other countries?</p> <p>What regulatory direction are you planning to follow in the USO and spectrum sectors?</p>

Source: Author.

The first set of questions supported the framing of the issues in the field. It gave insight as to how the dynamics between the EU and MENA countries take place and what do EU experts focus on when cooperating with MENA countries. However, the questions were often broad and lacked precision, particularly in what concerns technical developments. As such, the second set of questions and interviews gave the most interesting and precise data to work on. The questions were more specific and directed. Despite the technicity of the selected sector, the use of semi-structured interviews allowed for the sessions to remain flexible. The atmosphere was always peaceful, pedagogical and informative. Most experts were gratified to talk about their work and give their opinion of transnational collaboration. The answers were written in key words, on a piece of paper. Nothing was recorded on tape to facilitate an informal

atmosphere. Straight after each interview, the hand-written draft was transcribed on a word document. The consistence of the transcription taking place less than a day after the interview ensured a close translation of the interviews from the oral to the written format. The interviews were then uploaded in the qualitative software NVivo for coding and analysis.

3.2.2 Ethics approval process & qualitative software

Several ethical considerations needed to be taken into consideration so to conduct the field research under appropriate conditions. Two ethics approval forms, one for European countries and one for the MENA countries, were prepared and approved by the Ethics Committee of the University of Exeter before the expert interviews took place. The ethics approval process included the need to ensure the voluntary and informed nature of participation of the experts. To do so, a consent form was sent before the meeting explaining the main aims of the interview and the objective of the data gathering, hence being part of the empirical research of a PhD thesis. Written consent was obtained in every case, except for two interviewees who gave their oral consent (Expert JO9 in Jordan and Expert EG4 in Egypt). The consent forms were signed at the beginning of the interview, which gave the possibility of explaining the aims of the interviews and manage the expectations. It also gave the opportunity for the participants to decide whether they wished to remain anonymous or not. As most experts decided to remain anonymous, all experts have been anonymised to facilitate the reading and presentation of the empirical analysis as explained in Section 3.2.1.

Regarding data storage, the transcription of the interviews and list of interviewee names have been kept separate in two different folders on the computer hard drive of the researcher. Two additional copies were saved on an external hard drive and on the University of Exeter secured central data storage facility, U: drive. Furthermore, the ethical approval process required an assessment of possible harm caused by the thesis. Due to the non-conflicting nature of the research and the technological aspects of the topic, it was concluded that the interviews were not likely to cause harm to the participants. The political situation in Egypt however required particular care when conducting research. The interviewed experts did not feel as confident as the

ones in Jordan and Morocco to share personal views. This was due to the instability of the political system and the uncertainties linked to government changes. The results of which is that in Egypt, the NRA leaders accepted to participate in the research, representing the official position validated by the Ministry, but more specialised workers preferred not to give any detailed view on their work.

The interviewees were also invited to review a copy of their interview transcript, if they wished. This was asked by only few interviewees. This is the case of Expert EU14 from BAKOM, Expert JO3 from TRC and Experts MO9 and MO10 from HACA. They amended certain aspects of their answers and the corrected versions were used in this thesis. Lastly, a declaration of interest ensured that the research thesis was self-funded, as such there were no further commercial or other interests involved in that project. The experts were also made aware of their right to withdraw from participation at any time.

Finally, the use of qualitative software NVivo supported the qualitative coding of the interviews into a selection of adequate nodes. It also represented an additional archival support for the gathered data. Coding implies marking the text in order to tag particular parts of segments of that text (Atkinson and Delamont, 1996). Furthermore, the use of qualitative software permits the exploitation of hypertext and hypermedia techniques and the possibility to create flexible nodes through a variety of supports, audiovisual and texts (Atkinson and Delamont, 1996). The use of qualitative software and in this case NVivo has supported the retrieval of information and analysis of the qualitative comparative case studies. The qualitative software permitted the horizontal grouping of the interviews along selected topics and facilitated their comparison. A consistent and quasi simultaneous transcription of the interviews from handwritten format to word document and the uploading to NVivo facilitated the coding and the analysis of the data.

3.2.3 Secondary & Primary Sources

To complement the information regarding the country cases and sector cases and to triangulate information gathered in the field research, additional sources were consulted. Policy diffusion literature and other theoretical and conceptual

researches were central to the elaboration of the framework. However, further sources were needed to understand the context and cases of this thesis empirically. As such, three main types of sources are used to analyse comprehensively the research topic, they can broadly be grouped into three categories, legislative documents from MENA and EU agents, international organisations' statistical databases and finally, academic research.

Firstly, to best grasp the policy-making processes surrounding the six case studies, laws, decrees, proposals, directives, communications and any other relevant legal documents, surrounding the process, were used. It includes the screening of key Moroccan, Jordan and Egyptian policy-process documentation from both the respective ministries and the NRAs. In most of the cases, these documents are published in French for Morocco and in English for both Egypt and Jordan, which has facilitated the use and analysis of documents, as both languages are spoken by the researcher. In one case, however, a key Egyptian USO policy document (NTRA, 2005) only existed in Arabic and other types of documents, such as leaflets and communications of the official NTRA website, were only partially covering the text in English. The support of a bilingual Arabic-English academic colleague was then requested to get a complete translation. The selection of key policy documents related to the Barcelona process and the European Neighbourhood and Partnership Instrument (ENPI) framing the relationship between the EU and the Southern Mediterranean Countries are also used. These documents include the Association Agreements, Action Plans, Activity Reports and Strategy Documents of the countries under study. An additional focus was set on key legislative documents regarding the EU and MENA information society in general. Documents such as the Cairo Declaration on the Information Society (Cairo Declaration, 2003), the EU communications on NATP Programmes (EU Neighbourhood Info Centre, 2008) or the Conclusions of the Rome conference on Information Society (Euro-Mediterranean Meeting of Ministers, 1996) are included in the dataset.

Secondly, reports and statistics of major regulatory and economic institutions were consulted, such as the ITU, which compiles telecommunications data in yearly reports for all countries of the world, the World Bank, the EBRD, OECD and the International Monetary Fund (IMF). Statistical resources on Euro-Mediterranean telecommunications from Cullen Reports were also key to the

gathering of data and to understanding what types of telecommunications statistics were available and published by intelligence consultancies. Several indexes have also been used, such as the Worldwide Governance Indicators (WGI) and The Bertelsmann Foundation Transformation Index (BTI). The Polity IV index, from the Center for Systemic Peace, was also useful to bring an additional approach to the country cases based on democratic and autocratic authority in governing institutions. The exact measurement of the independent variables, both sector and state ones, is explained later in this chapter (Section 3.3.2).

Finally, in addition to primary source material, academic publications discussing the EU and Euro-Mediterranean cooperation and policies were used. When possible a focus on telecommunications was useful. Authors focusing mostly on telecommunications policies were of key interests, bringing sophisticated technical and economic approach to the research. Such research however mostly originates from technical journals and it is not always an easy task to use such information in political science research. However the information gathered from these journals was central to understanding the scope and challenges of the policies under study. Secondary material also includes authors discussing developing countries and the role of economic and technical cooperation in development. Once again, when possible, a focus on telecommunications was useful, but not always available.

3.3 Selection of measurements

3.3.1 Measurement of the dependent variables

In this thesis, the dependent variable has been identified as the adoption of a policy. This adoption is defined in terms of the four mechanisms of diffusion, learning, imitation, economic competition and coercion. As mentioned earlier (Sections 1.4 and 2.2), to measure the dependent variable, it is necessary to observe the policy adoption of a specific policy item. The product is defined by a similar regulation, law, policy guideline, idea or programme that can be distinctly identified in two different systems. This represents the object that has been diffused from one system to the other. In addition, the process must be evidently perceived as well. It corresponds to the observation of an interaction

between the two systems. Only when observing both the product and process can it be concluded that policy diffusion has taken place. The dependent variable of this thesis can take four different shapes, as such the product and process may also take four shapes. Table 13 proposes a systematisation of the four variations. This is based on the operationalisation and conceptualisation of the mechanisms of diffusion in chapter 2 (Section 2.4 and particularly Table 4, page 53).

Table 13 Definition of the four types of product and process

	Learning	Imitation	Competition	Coercion
Product	Combination of different models	Text is copied (even mistakes)	Compatible with economic requirements	Policy benefiting the external actor
Process	Variety of channels and partners	Most typical regulation	Role of economic actors in policy-making	No autonomous policy-making decision

Source: Author.

Table 13 shows that in the case of learning mechanisms, it must be observed that the product is a combination of models and that the process is characterised by the use of a variety of channels and partners. In the case of imitation mechanisms, the product is marked by a close similarity of the two models, where even mistakes may be adopted. The process of imitation mechanisms is characterised by the most typical regulation to adopt in the field, without a close interest in the domestic context itself. The competition mechanism is marked by the compatibility of the adopted law with economic requirements and the process is defined by the role of economic actors in the process of policy-making. Economic actors can be represented by lobbies, the private or public sectors, as long as corporate, profits or investment interests are at play. Lastly, coercive mechanisms are defined by a product which satisfies the external actor pushing for it the most. The process underlines the lack of autonomous decisions in policy-making.

The table is useful to recognise different patterns of adoption. However, due to the complexity and abundance of legislative information surrounding policy-making, it is necessary to identify points of reference in a sector to better qualify

the movement of ideas, programmes or policies. In fact, two points of reference were chosen to identify the product and process of policy diffusion for both USO and spectrum management, the details of which is given in the next Chapter (Section 4.2). Table 14 shows the four management ideas that have been chosen as identification tools. They correspond to recent management trends in both sectors that the selected country cases have had to deal with as well.

Table 14 Four management ideas to observe policy adoption

	1 st management idea	2 nd management idea
USO	Mobile Telephony Inclusion of mobile phones in the definition and scope of USO	Broadband Internet Inclusion of broadband internet in the definition and scope of USO
Spectrum Trading	Technological neutrality Specification of technological neutrality when allocating spectrum rights	Spectrum trading Possibility given to spectrum owners to engage in spectrum trading

Source: Author.

The two management ideas of USO are linked to the change in the definition and scope of USO to include both mobile telephony and broadband internet. This is linked to the evolution in phone technologies connecting citizens across the world, concerning the increasing interest into mobile technologies rather than fixed ones. This is particularly true in developing countries, which do not possess the necessary infrastructure to provide fixed telephony to their citizens. Fixed telephony in such countries is in decline and households have a tendency to be cell-only. In such cases, fixed infrastructures are neither feasible nor practical (Gideon and Gabel, 2011, Xavier, 2008). The trend to increasingly adopt mobile rather than fixed telephony in USO is similar to broadband internet. Functional internet has been part of USO traditionally. However, the question has now arisen, as to which internet standard is vital to citizens and whether broadband internet should become a part of the scope of USO as well.

The two management ideas linked to spectrum policies are also linked to the latest developments of the sector. The flexibility of governments to take autonomous decisions in the field is limited by the need to coordinate the use of these cross-border resources. However, leeway exists in relation to the

management and allocation of spectrum nationally. Two trends have arisen in the domestic management of wireless spectrum, technological neutrality and spectrum trading. Both techniques refer to the need for the states to become more dynamic and efficient in both spectrum allocation and use. Technological neutrality represents more flexibility for the phone operators to use the frequency with different technologies and not to be tied to restrictive standards (Wellenius and Neto, 2008:3, Michalis, 2007:251). Spectrum trading relates to the possibility for operators to trade spectrum once they have purchased it without having to hand it back to the regulator beforehand. All four management techniques reveal potential policy developments to improve the use and scope of USO and spectrum management. They provide interesting fields to observe policy diffusion.

To measure these four management ideas coding is required regarding the observation of the product and the process. In this thesis, policy adoption is thought to be a continuum. As such the coding values represent three different ranges of adoption from low to high. The three different possibilities of coding are: high policy adoption (+); medium policy adoption (0) and low policy adoption (-). High policy adoption is chosen if the links between the diffused and adopted model are complete, direct and clear. Medium policy adoption is chosen if the links between the diffused and adopted model are partial. Low policy adoption is chosen if there is evidence of some links between the diffused and adopted model, but it is only weak and diffused. If no policy adoption is observed at all in neither the product or the process or both, the result is a definite 'na' (not applicable). To summarise, all four management ideas are coded for both product and process. The average is then used to conclude whether policy diffusion has taken place or not. In cases where an average is not possible, the lowest value is selected. The lowest value is preferred to the highest, due to the difficulty of observing policy diffusion methodologically. Thereafter, a more cautious approach is preferred. Table 15 gives an overview of the potential values for the coding. Six different possibilities may take place, as shown below. One possibility is high, three are medium and two are low.

Table 15 Dependent variables' coding options

	Product/Process	Product/Process	Degree of Policy Adoption
Possibility 1	+	+	+
Possibility 2	+	0	0
Possibility 3	+	-	0
Possibility 4	0	0	0
Possibility 5	0	-	-
Possibility 6	-	-	-

Notes: Values: +: high policy adoption; 0: medium policy adoption; -: low policy adoption; na: not applicable.

Source: Author.

3.3.2 Measurement of the independent variables

The independent variables of this research support the two subquestions of this thesis. Firstly, four state variables have been conceptualised to analyse the conditions under which a country is likely to adopt a policy originating elsewhere. Secondly, five sector variables have been conceptualised to support the analysis regarding which mechanisms of diffusion are at play, once the adoption of a policy item has been confirmed. Both sets of variables, states and sector are measured in different ways. The four state properties are measured according to statistics and indexes. The five sector properties on the contrary are measured following the qualitative observation of their absence or presence. This is based on the information gathered by expert interviews and supported by primary and secondary literature. Table 16 offers an overview of the ten variables with information regarding the covered period, measurement and sources.

Table 16 Independent variables' measurement

	Covered Period	Measurement	Source
State Variables			
Governance Openness	2000-2014	Index	Worldwide Governance Indicator
Market Openness	2003-2014	Index	Bertelsmann Transformation Index
Political Interconnectedness	2000-2013	Statistics	Foreign aid data (OECD) compared to GDP values (World Bank)
Market Interconnectedness	2000-2013	Statistics	FDI compared to GDP values (World Bank)
Sector Variables			
International Regulatory Channels	*-2014	Questions	Were they used to discuss policy options? Did they have an impact in shaping the policy domestically?
Transgovernmental Collaboration			
Efficiency	*-2014	Keywords	Enhancement of performance Satisfaction with a new model Pride in the results
Economic interests	*-2014	Keywords	Focus on one/several corporation(s) Inclusion of corporation into policy-making Importance of the market
Sanction capacity	*-2014	Keywords	Compliance with international regulation Lack of alternative options Need to follow leaders Sanction capacity

*Notes: Telecommunications reviews: Morocco (1997), Jordan (1995), Egypt (2003).

Source: Author.

The first state variable to be discussed is governance openness. Its measurement is based on the aggregation of two of the WGI, the government effectiveness index and the Regulatory Quality measure. The WGI is a project supported by the World Bank. This index allows for six dimensions of governance to be measured; voice and accountability, political stability and

absence of violence, government effectiveness, regulatory quality, rule of law, control of corruption (World Bank, 2014d). According to Kaufmann et al., the Government Effectiveness index aims at capturing perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies (Kaufmann et al., 2010:4). This measure is adequate for the thesis, as it aims at capturing the ability of the government to formulate and implement sound policies and regulations. The data covers the period from 2000 to 2014.

The second state variable under review is market openness. Its measure is based on the status index and more precisely the “Economic Transformation” figure provided by the BTI. It includes several variables, which are the level of socioeconomic development, organisation of the market and competition, currency and price stability, private property, welfare regime, economic performance and sustainability. The BTI analyses and evaluates the quality of democracy, a market economy and political management in 129 developing and transition countries (Bertelsmann Foundation, 2015a). In this research however, the BTI is not used fully and only the index covering the economic transformation is taken into account. This is more useful, as the aim of this variable is to operationalise market openness specifically and not other types of transformation, such as the political system. The data covers the period from 2003 to 2014.

The third and fourth state variables are political and market interconnectedness. These two variables are measured using statistics of the OECD and the World Bank. Political interconnectedness is calculated as the share of foreign aid compared to the total revenues of a country. The foreign aid data is taken from the OECD (OECD, 2015). It is related to GDP values originating from the World Bank 2014 Country indicators (World Bank, 2014b). This allows a comparison across different cases of the significance of foreign aid compared to the income of the country as a whole. The data covers the period from 2000 to 2013. The last variable, market interconnectedness is measured using net inflows of Foreign Direct Investment (FDI) from 2000 to 2013 of the World Bank databank compared to GDP (2014b). This is useful, in similar terms as is the third variable on political interconnectedness, to show in a comparative perspective whether

higher level of FDI compared to the global income of a country has an impact on the likelihood of policy adoption.

The sector variables are measured using a qualitative approach. The two environment variables are the international regulatory framework and transgovernmental cooperation. To observe whether the variables had a role in the policy decisions of the domestic countries, two questions have to be answered. Firstly, were the channels used to discuss policy options? And secondly, did they have an impact in shaping the policy domestically? Both questions are intended to confirm, that the channel has had a role in proposing different policy solutions and that the adopting country took these solutions into account domestically. The three pressure variables are efficiency, economic interests and sanction capacity. These variables can only be observed using qualitative methods, thanks to the coding of the interviews data. The use of a selection of keywords are adequate to conclude which pressure variable have been at play. In the case of efficiency, experts talk about the importance of enhancing the performance of a policy, so far characterised by failure or low results. The discussion introduces notions of satisfaction with a new model adapted to the domestic situation. Pride in the results of the new policy is advocated. Concerning the second pressure variable, economic interests, experts mention several corporate actors active in the field and eventually lobbies. References in the market are underlined and corporations are involved into policy-making. Finally, concerning the last pressure variable, sanction capacity, experts refer to the need to comply with international regulations and the lack of alternative options. They express the need to follow the leaders without a will to do so. However, in this variable, it is also necessary to control, by using triangulation and other primary and secondary sources, whether there is a potential for sanctions. In other words, it must be assessed in addition to expert data whether measures can be actioned against a country who has not adopted the necessary policy change.

3.4 Conclusion

This methodological chapter outlines the different methods, sources and measurements which are used to advance the empirical research. The first section introduces the selection of methods and sources. The use of case

studies and expert interviews in addition to a selection of primary and secondary sources represent the main tools to conduct this research. They are useful to account for the heterogeneity and complexity of the cases under review. The original data set is composed of 52 expert interviews, mostly active in the telecommunications sector and/or Euro-Mediterranean relations. They were gathered between September 2013 and July 2014 in Europe and MENA countries, using semi-structured interviews. Their transcription was supported by qualitative software NVivo. In addition, primary and secondary sources were used to contextualise and triangulate information received in the expert interviews.

The second section of this chapter gives the measurement of the variables. Different methods are used to measure the dependent and independent variables. In this thesis, the dependent variable is defined as the act of policy adoption. It can take four different forms each one representing a mechanism of diffusion, learning, imitation, competition and coercion. This chapter shows how each mechanism can be differentiated using the product and process tools of analysis, as explained earlier in chapter 2 (Section 2.2). To focus on the act of policy diffusion without being lost in the amount of policy documents existing in the field of telecommunications in each country. This chapter outlines the use of two management ideas for each subsector (Table 14, page 96). The focus on these four management ideas, allows following a clear line when addressing policy diffusion. To empirically observe policy adoption, these four management ideas are coded in terms of product and process. This supports conclusions on whether policy diffusion has taken place. The results are given in next chapter, which represents the first empirical chapter of the thesis (Chapter 4).

The independent variables are divided into state and sector variables. The state variables are measured through the use of indexes and statistics. Sector variables are measured through the qualitative appreciation, based on expert interviews, of their presence and absence. The environment variables require the confirmation that these channels have been used and have had an impact in the process of policy adoption. The pressure variables require the observation of the use of certain keywords and expressions in the expert interviews. The sector variables require the use of further primary and secondary sources to confirm the data of the interviews. This is notably the

case concerning sanction capacity and the practical risk that countries face when adopting certain policies.

This methodological part shows how the research questions are going to be analysed. It presents the methods used to gather the data and gives arguments supporting these choices. This chapter shows that qualitative methods are necessary to account for the heterogeneity of cases, however, methodological bias exists in policy diffusion, due to the need to select cases where policy diffusion is taking place, to best observe and analyse the phenomenon. This is also the case in this thesis, where policy adoption is expected to take place in each of the cases, albeit to different degrees. The three first chapters of this thesis have now presented in detail the structure, framework and methods of the thesis. The next three chapters comprise of the empirical part of this thesis, with each chapter focusing on one aspect of the framework. The first empirical chapter focuses on the observation of policy adoption (Chapter 4), the second one on conditions leading to policy diffusion (Chapter 5) and the last one on the mechanisms of diffusion (Chapter 6).

4 CHAPTER 4 – Observing policy diffusion

4.1 Introduction

This chapter is the first of three empirical chapters presenting the empirical analysis of the three-step framework detailed in the previous sections. This first empirical chapter aims to observe policy diffusion. It answers the research questions: does policy adoption take place in the telecommunications sector in Morocco, Jordan and Egypt. All six cases, composed of three countries, Morocco, Jordan and Egypt and two telecommunications subsectors, USO and spectrum management, are analysed in detail. To observe if policy diffusion has taken place in the selected case studies, this thesis argues that different methodological tools are useful. Firstly, two aspects must be jointly observed. Both the product—the visible movement of the law itself—and the process—the interaction between both jurisdictions—need to be observed. Furthermore, to more specifically observe the movement of the product and process across countries, two recent management ideas were selected for each of the subsectors. This is useful to perceive the movement of ideas precisely. Table 14 shows the four selected management ideas, two for each of the subsectors, that need to be traced, to conclude that policy diffusion has taken place in the six cases (firstly shown in Section 3.3.1 , page 96).

Table 14 Four management ideas to observe policy adoption

	1 st management idea	2 nd management idea
USO	Mobile Telephony Inclusion of mobile phones in the definition and scope of USO	Broadband Internet Inclusion of broadband internet in the definition and scope of USO
Spectrum Trading	Technological neutrality Specification of technological neutrality when allocating spectrum rights	Spectrum trading Possibility given to spectrum owners to engage in spectrum trading

Source: Author.

With regards to USO, the two management ideas are linked to the question of whether to include mobile telephony and internet in the definition and scope of universal service and access. Concerning spectrum management, the two

management ideas are linked to the flexibility given to spectrum owners to apply different technologies to their spectrum share and to eventually trade it if it is not used in its full capacity. The four management ideas may potentially exist in any of the cases under review as they represent potential to develop the use of both USO and spectrum management. All four management ideas need to be coded according to both the product and process to conclude whether policy diffusion has taken place and to what extent- The detailed measurement is given in Chapter 3 (Section 3.1).

The following chapter is structured as follows. The objective of the first section is to delineate the telecommunications sector under review. Both sectors, USO and spectrum management are described in terms of their main current issues and compared to the regional framework of the EU. The second section analyses in detail the six case-studies in relation to the empirical data gathered during the field research. Each case is explained and assessed in the light of the regional framework of the EU. They are assessed according to the four management ideas described above and according to both concepts of product and process.

4.2 Defining the policy cases

4.2.1 Universal Service Obligation (USO)

USO can be defined as the provision of a baseline level of telecommunications services to every resident of a country at a reasonable charge (Parsons and Bixby, 2010:121). At the origin of the universal service argument is a discourse based on social inclusion, in particular of the need to provide basic health and safety services to the whole population (Oguz, 2013:14). USO emerged from a discourse that considers basic telecommunications services as a social right for citizens. Simpson states that “it was argued that universal access to a basic telecommunications service at a uniform price was effectively a social right for citizens to be pursued as a goal of public policy by the corporate state well accustomed to interventions of this kind in a number of Europe’s industrial sectors, not least those of the utilities sector (energy and telecommunications, principally)” (2008:106). In fact, USO represented the solution to the need for an equitable service provision, to ensure a positive impact of economic

development and to develop the required infrastructure (Alleman et al., 2010:88). Universal service has been seen as corrective regulatory tool in order to reduce the negative social effects of liberalisation in network industries (Oguz, 2013:15). This position was taken by international organisations and the WTO itself recognises the exceptional characteristics of USO. The WTO reference paper declares that “[a]ny Member has the right to define the kind of universal service obligation it wishes to maintain. Such obligations will not be regarded as anti-competitive per se, provided they are administered in a transparent, non-discriminatory and competitively neutral manner and are not more burdensome than necessary for the kind of universal service defined by the Member” (WTO, 1996:art.3). As such, the USO policies are an exception to the normally enforced competition principles in the telecommunications sector.

However, several authors and international bodies have observed the changing characteristics of USO provisions (Alleman et al., 2010:87). Oguz mentions that whereas the definition remained relatively unchanged during the last decade, technological advances, the widespread of liberalisation in this sector and changes in pricing and tariff models have brought growing uncertainty over the scope of universal service, considering the recent shift towards mobile services (2013:13). The definition and the scope of USO are in fact at the core of this subsector of telecommunications. An interesting distinction is given by the World Bank. The World Bank handbook differentiates between the concepts of Universal Service and Universal Access. It mentions that universal service refers to service at the individual or household level, for example through a telephone capability in each home. Universal access refers to a publicly shared level of services, through public payphones or internet telecenters (World Bank, 2011:153). The generic term of universal access and service (UAS) is advocated by the World Bank handbook to encompass both intertwined aspects of USO. In this thesis Universal Service Obligation (USO) is preferred as it more adequately displays the compulsory component falling on mobile and fixed operators to provide USO phone services.

The focus on universal access rather than universal service is advocated by several authors who deplore the old-fashioned definition of USO. Universal service is usually based on an old model of service supplying based on a fixed line. This is typically the case for European USO. However, considering the

improvements in the sector, with mobile and broadband technologies, this old-fashioned definition is increasingly put under pressure. Aleman et al. argue that the definition of universal service needs to be expanded. They state “[i]n today’s world of communications, a call is no longer simply a signal sent over a fixed-line to a receiver at another fixed-line, but a multitude of means of carrying a call. For data communications the choice set is even larger” (2010:87). In fact, one of the main pressurising trends on traditional USO is the advancement of competition. Several authors argue that the increasing number of technologies in the field that may thrive through healthy competition are capable of bridging the gap of social exclusion. Oguz argues that “[p]hones and other services have become more accessible for most people. Social exclusion is no longer valid in most societies and increasing competition improves substitutability of services” (Oguz, 2013:15). The conflictual trend between competition and regulation to manage USO is interesting as it was underlined by several experts during field research. In this thesis, the role of competition was included in the semi-structured interview, notably when discussing USO with the corporate sector. Each one of the country cases have developed different models dealing with both aspects of competition and regulation. They are discussed in the next section in detail (Section 4.3).

The view that healthy competition may reduce the long apprehended negative effects of liberalisation, with entire regions being left aside because of a lack of profitability is further pronounced by the premise that not every citizen who has access to communications technology will use it effectively. For instance, it may become apparent that people in rural areas with lower income do not necessarily require broadband services which would require massive investment. In some cases, increasing availability does not necessarily bring an increased use. Oguz argue that in such cases, some resources would be wasted and would reduce the social welfare in comparison to alternative uses (2013:15). In such cases, authors and practitioners deplore that where competition may bring an alternative to USO provisions, the social argument hinders the development of telecommunications technologies (Expert EU19, 2013). In fact, the USO scope sometimes goes further than phone and internet communications services. The World Bank for instance includes the establishment of community access points, connecting universities, schools,

libraries, post offices, health centres and local governments, as part of the scope of USO (World Bank, 2011:154). This is motivated by the premise that the widespread access to and diffusion of ICTs are highly desirable for social and economic reasons and participates in the WSIS ambitious goal of connecting all villages of the world to ICTs by 2015 (World Bank, 2011:154). In this thesis, however, the focus is set on projects surrounding the expansion of phone and internet communications and not the distribution of hardware such as computers, as these are not always linked to telecommunications policies only, but also tackle sectors such as education or internal affairs, which are not the focus of this thesis.

The EU framework for USO is based on the fixed line and functional internet. According to the 2002 universal service directive, the concept of universal service refers to the provision of a defined minimum set of services to all end-users at an affordable price. Furthermore, member states should ensure that services must be made available in their territory, irrespective of their geographical location and at an affordable price (European Parliament and European Council, 2002:51). The revised 2009 Directive reframes USO by stating that the aim is to ensure the availability of good quality publicly available services through effective competition and choice (European Parliament and European Council, 2009a:art.1). Article 4 confirms the provision of access at a fixed location and provision of telephone services. This article further specifies that member states shall ensure that all reasonable requests for connection at a fixed location are met by at least one undertaking. In addition, the connection shall support voice, facsimile and data communications at data rates sufficient to permit functional internet access (European Parliament and European Council, 2009a:art.4). It can be observed from the above that the EU framework for USO is directly linked to the traditional definition of USO based on fixed telephony and minimum internet connectivity. Table 17 offers an overview of the EU decisions regarding both management ideas in USO. It shows that mobile phones and broadband internet are not included in the current scope of USO in the EU.

Table 17 USO scope and decisions in the EU

	Regulation and Article	Review of scope
Mobile Phone	No inclusion of mobile phone (Art.4) (Universal Service Directive 2002/22/EC & Citizens Rights Directive 2009/136/EC)	No extension to mobile services (2011 Communication on universal service in e-communications)
Broadband Internet	No inclusion of broadband internet (Art.4) (Universal Service Directive 2002/22/EC & Citizens Rights Directive 2009/136/EC)	No extension to broadband connections (2011 Communication on universal service in e-communications)

Source: Author.

The inclusion of mobile phones and broadband internet has been discussed in the EU in the development of USO policies since 2002. The 2002 USO Directive mentions that USO does not refer to Integrated Services Digital network (ISDN)¹¹. It specifies that a fundamental requirement of universal service is to provide users with a connection to the public telephone network at a fixed location, at an affordable price, which includes a single narrowband network connection (2002:(8)). This is confirmed by the recital of the 2009 Directive which mentions that data connections should be capable of supporting communications at rates similar as those provided via the public internet (European Parliament and European Council, 2009a:(5)). Hence, at the moment, USO in the EU does not include broadband nor mobile services. The 2011 Communication on universal service in e-communications confirmed that there would be no extension of the USO scope to broadband connections and neither to mobile services (European Commission, 2011). The EC stated that DSL broadband was available to 95% of the EU population by the end of 2010, but was used by only around 23% to 83% across member states (European Commission, 2011:6). Hence this did not represent a substantial majority of the population and thus did not need to be included in USO. Regarding the inclusion of mobiles in USO, the 2013 communication mentioned that

¹¹ ISDN is a data transfer technology. It enables wide-bandwidth digital transmission over the public telephone network, transferring data significantly faster than with a dial-up modem (TECHTERMS. 2015. *ISDN* [Online]. Available: <http://techterms.com/definition/isdn> [Accessed December 12 2015].)

subscriber penetration was of 124.4% in October 2010, to which the EC concluded that there was no risk of social exclusion (European Commission, 2011:7). The European Parliament however addressed a report on October 24 2013, to ask the EC to consider changing the scope of the USO to include the obligation to offer broadband internet access at a fair price (European Parliament, 2013). The situation has not changed since then.

The EU policy also defines the different means that can be employed to cover the fees for USO. NRAs may either introduce a public funding mechanism for compensation or share the net cost between operators. The 2002 directive specifies that charges may not be imposed or collected for undertakings which are not used to provide USO services (2002: art.13). Furthermore, art. 14(1) of the USO directives mentions that where a mechanism for sharing the net cost of USO is established, NRAs shall ensure that the principles for cost sharing, and details of the mechanism used are publicly available. Humphreys and Simpson argue that the decentralised character of the regulation-in-practice has led to variations among Member states and USO provisions are an example of diverging practices (2008:856). Hence, France created a Universal Service Fund (USF) to which the operators contribute to in order to compensate the official USO, in practice the incumbent operator (ARCEP, 2015). This practice has been argued to favour the national champion (Humphreys and Simpson, 2008:856). The issue of the funding of USO is an interesting one, as one of the frequent criticisms regarding USO in MENA countries is the non-transparency of the USF, both in terms of contributions and allocations (EU17, 2013). The existence and use of USF is discussed in each of the USO cases and reveal very different models.

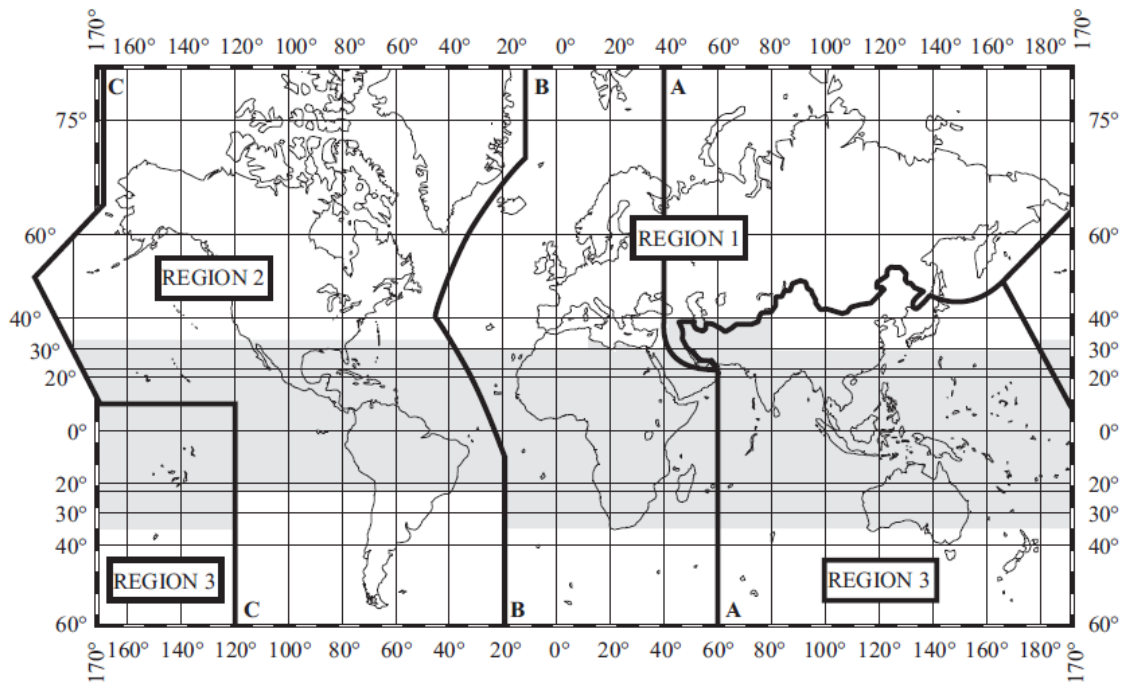
4.2.2 Spectrum Management

The scope, definition and regulation of spectrum management are in many ways different to USO. The management of spectrum has a lot to do with its characteristics as a scarce resource, with particular capabilities that allow it to carry data across borders. Its use by governments for military, defence and maritime and aeronautical services makes it a highly sensitive subject (Chaduc and Pogorel, 2008). Electromagnetic spectrum is similar to non-physical waves. Where such waves overlap with each other, they interfere and harm each other

signals (Delaere and Cullel-March, 2014, Garcia Leiva, 2013). Regulation occurs mainly to prevent these harmful interferences, but also to achieve economic and technical efficiency of spectrum use (Cave et al., 2007). Due to its cross-border characteristics and key role as a transporter of information, spectrum management has had a long history of international coordination for over 100 years. The ITU is particularly relevant for spectrum management and the international framework for spectrum management depends on a treaty developed, signed and ratified by the member states of the ITU. The ITU conveys world and regional radio conferences every three to four years, to establish regulations, agreements and plans for the global use of radio spectrum.

For instance, the ITU radio regulation divides the world into three regions in order to manage spectrum efficiently, with each region consequently being allocated specific sets of frequencies (ITU, 2012c:art.5). The aim is to ensure compatibility of spectrum uses and limit interferences across countries. Region 1 comprises of all countries in the European and African continents, as well as countries further east, such as Uzbekistan and Mongolia until the area to the North of Russia, but excluding the territory of the Islamic republic of Iran. Region 2 includes the Northern and Southern American continents and region 3 includes the Asian and Australian continents, as well as the Islamic Republic of Iran. In this context, Expert MO7 of the ANRT mentions that the division into three regions of the ITU influences relationships due to a similar interest in a particular region, however conflicts always arise, even if parallelisms may be found between certain groups, such as Region 1 and 3 (Expert MO7, 2014). Figure 3 illustrates the above mentioned ITU regional divisions.

Figure 3 ITU Frequencies allocation map



Source: Radio Regulation's Frequencies allocation map (ITU, 2012c:Art.5(2)).

The main body of laws in that sector is prepared by the ITU and called the Radio Regulations. This text was adopted at the WRC in Geneva in 1995. It was then revised and adopted by subsequent WRC, including further appendices, resolutions and recommendations of the ITU. The actual version stems from the 2012 WRC, which took place in Geneva as well (ITU, 2012c). It deals with the technicalities, standards and limitations for the effective management of spectrum and without interference from across the world (ITU, 2012c). Spectrum management is also taken into consideration in various WTO sources. The WTO reference paper defines the allocation and use of scarce resources as any procedure, including frequencies, numbers and rights of way (WTO, 1996:art.6). It confirms that such management processes need to be carried out in an objective, timely, transparent and non-discriminatory manner. It also mentions that the current state of allocated frequency bands needs to be made publicly available, except for the detailed identification of frequencies allocated for specific governments (WTO, 1996:art.6). This shows the potential for the non-transparent use of spectrum for government purposes such as the military and defence services. Both the WTO reference paper and the ITU Radio Regulations do not, however, give any advice regarding domestic spectrum management, such as the use of auction or inclusion of technological

neutrality or spectrum trading in management reforms, which shows that decisions concerning the domestic allocation of spectrum follow other sources rather than ITU and WTO regulations.

One of the main current developments in spectrum regulation relates to the planning of the digital switch-over, an initiative supported by the ITU. The digital broadcasting switchover is supposed to free a large portion of lower frequencies to allow for a re-allocation of spectrum and provide a more efficient use of the spectrum (ITU, 2012a). The World Bank handbook mentions that the transition to Digital Terrestrial Television Broadcasting (DTTB) is an important source of flexibility in spectrum management. It may release a remarkable amount of the radio spectrum to be re-allocated for use (World Bank, 2011:114)¹². The DTTB is particularly relevant for mobile phone operators who may use the freed spectrum to expand their markets and technologies, such as the Long Term Evolution (LTE) standard, commonly linked to 4G technologies (Cullel, 2011, Lamy, 2014). The 2006 Regional Radiocommunications Conference adopted a document on digital migration strategies and principles, which set a deadline for the analogue television switch off by June 17 2015 in Ultra High Frequency (UHF) band and 2020 for Very High Frequency (VHF) band (ITU, 2012a, ITU, 2006). The digital broadcasting plan, referred to as GE06¹³, covers 116 countries of Africa and Europe and was agreed for the frequency bands 174-230 MHz and 470-862 MHz (ITU, 2012d). The digital switch-over has been completed by several countries since the late 2000s.

In the EU, the 2009 recommendation asked member states to complete the DTTB by 2012 (European Commission, 2009). Sweden and Finland completed it in 2007 and Germany and Switzerland in 2008. The US completed the switch-over in 2009 (ITU, 2012b). In this field, the EU experience is important as an example. Expert EU6 mentions that with regards to the television digitalization,

¹² The World Bank handbook mentions that Digital Dividend arises because of the greater compression that is possible with digital signals. Digital compression allows the transmission of several, and up to eight, standard digital television channels in the radiofrequency spectrum previously used by a single analogue channel (WORLD BANK. 2011. *Telecommunications regulation handbook; 10th Anniversary Edition* [Online]. Available: http://www.itu.int/dms_pub/itu-d/opb/reg/D-REG-TRH.01-2011-PDF-E.pdf [Accessed August 8 2015].)

¹³ In reference to the 2006 Geneva agreement.

there has been a greater success with the EU approach, contrarily to the US, which only had four terrestrial channels to manage. The EU was at the forefront of setting standards (Expert EU6, 2014). The leading role of the EU in terms of DTTB was however challenged during WRC-2012 and WRC-2015, which confirmed the allocation of the bands 694-790 MHz to mobile services exclusively, confirming African and MENA states position against the EU decisions in the field (Lamy, 2014). The details of this decision are addressed in the last chapter of this thesis (Section 6.2, Framework Proposition 4).

Many developing countries have however encountered delays when attempting to complete the digital switch-over (Cullel, 2011, Ala-Fossi, 2012, Stirling, 2012). Several reasons account for the difficulties in implementing the GE06 and are observable in the three selected country case studies of this thesis (ITU, 2012d, Garcia Leiva and Starks, 2009). In fact, only Morocco has approved a law on June 17 2015 confirming its commitment to meet the GE06 deadline for UHF bands (Chambre des Représentants, 2015). Firstly, different population densities in developing countries compared to EU countries show limited numbers of analogue TV broadcasting channels as a whole than in Europe (Stirling, 2012). In such cases, there is less pressure on the regulators and the corporations to expand the offer in spectrum (Stirling, 2012). Secondly, the technology is not always mature enough in developing countries to run the sophisticated transition process (ITU, 2012d). Finally, insufficient financial resources and the lack of an adequate regulatory framework may slow down the process (Gulati and Yates, 2012). The difficulty to proceed to the DTTB and to adopt technological innovation is a recurring concern in spectrum management, where most stakeholders deplore the slow regulatory changes, not dynamic enough to follow the pace of changing technologies and business practices.

Two new trends in the management of spectrum are addressed in this thesis, spectrum trading and technological neutrality. Spectrum trading is advertised by the World Bank as a key option for innovative spectrum management. It means that the purchaser is allowed to change the use to which the spectrum was initially put while maintaining the right to use it (World Bank, 2011:111). El-Moghazi et al. mention that spectrum trading “usually refers to the part of spectrum where users have exclusive license that can be traded to other users.

Therefore, users of spectrum are those with the highest valuations for the spectrum and instead of the governmental regulators, market forces are responsible for the spectrum rights assignment” (2008:3). In such cases, the rule of the market takes over the rule of the regulator in spectrum allocation, confirming Coase’s avant-gardist advocacy on spectrum management (1959). The risk of such possibilities is however to face dominant firms setting excessive prices for the traded spectrum. The World Bank emphasizes competition law to overcome such excesses (World Bank, 2011:111). Spectrum trading gives the option to the new spectrum owner to trade its spectrum rights if it appears that the spectrum is not used in its totality. This links spectrum allocation closer to market forces than regulatory control.

Technological neutrality is another innovative trend in spectrum management. According to the World Bank, the principle of neutrality has taken on central importance in the constant evolving and expanding ICT world. It mentions that “[i]t is linked to the notions of democracy, populism, and decentralization that are hallmarks of the digital era: the idea that neither governments, companies, nor other gatekeepers should be able to dictate how anyone utilizes these technologies” (World Bank, 2011:203). It argues that the fast changing nature of ICT technology and markets suggest that regulators should avoid as much as possible the dictating of specific technical platforms and instead allow the greatest flexibility for the industry innovation and evolution (World Bank, 2011:203). Technological neutrality means that the allocation of spectrum shall not be linked to a defined technology but leaves it to the owner to decide the best way to use its acquired spectrum. In both cases of spectrum trading and technological neutrality, the owner shall be entitled to flexibility in its use of spectrum in order to maximise the efficiency of the spectrum use and not to keep it blocked due to restrictive regulations. Both ideas are relatively recent and are only at an initial stage of being distinctly outlined and implemented.

As mentioned earlier, spectrum management is largely coordinated by international bodies. However, on regional levels, some areas undertake additional commitments through sub-regional telecommunications organisations. This is the case of the EU, which action has only been minimal

and focused on standard settings (Michalis, 2007:251). The EU has however operated through the CEPT¹⁴. Originally, CEPT members were the monopoly-holding postal and telecommunications administrations. Its activities now consist of cooperation on commercial, operational, regulatory and technical standardisation issues, with a focus on spectrum use via the ECC¹⁵ (CEPT, 2013). The EU developed the Global System for Mobile Communications (GSM) standards, which contributed to technical spectrum efficiency and also supported the creation of a single market in goods and services allowing significant profits for telecommunications corporations (Michalis, 2007:251). The use of the GSM standard and the subsequent Universal Mobile Telecommunications System (UMTS) standards for the 3G technologies, which were developed by the European Telecommunications Standards Institute (ETSI) is very interesting, as all three country case studies have selected these standards as well, revealing a high market potential for European industries using this technology (Buys et al., 2009, Howard and Mazaheri, 2009). The issue of standards is discussed extensively in Section 6.2, Framework Proposition 1.

It was argued earlier that USO in the EU follows traditional trends. In what concerns spectrum management, the EU is closer to innovative management. This is particularly the case in member states promoting competition and flexibility to regulate the sector, such as the UK, under the leadership of the

¹⁴ The CEPT is a Europe-wide grouping comprising of national technical experts. It was founded in 1959 by 19 countries and expanded to 48 countries nowadays (CEPT. 2013. *All about our organisation* [Online]. Available: <http://www.cept.org/files/1047/CEPT%20Leaflet-September2015.pdf> [Accessed November 5 2015].) In the EU, spectrum management provisions need to be consistent with the work of international and regional organisations dealing with radio spectrum management such as the ITU and CEPT (EUROPEAN PARLIAMENT & EUROPEAN COUNCIL 2009b. Directive 2009/140/EC of the European Parliament and of the Council of 25 November 2009 amending Directives 2002/21/EC on a common regulatory framework for electronic communications networks and services, 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities, and 2002/20/EC on the authorisation of electronic communications networks and services. *Directive 2009/140/EC (Better Regulation Directive)*.)

¹⁵ The CEPT comprises of three autonomous business committees; the Electronic Communications Committee (ECC) primarily develops common policies and regulations in electronic communications for Europe, with a primary focus on spectrum use. The Committee for ITU policy engages with the CEPT's engagement with the ITU, except regarding the World Radiocommunication Conference and last the European Committee for postal Regulation (CERP) deals with postal regulation and European co-ordination (CEPT. 2013. *All about our organisation* [Online]. Available: <http://www.cept.org/files/1047/CEPT%20Leaflet-September2015.pdf> [Accessed November 5 2015].)

Office of Communications (OFCOM) (Garcia Leiva, 2011, Michalis, 2007:252-3). Both management ideas are included in the recital, even if the implementation is not yet distinctly delineated in the policies themselves. Table 18 gives the overview of the two management ideas for spectrum policies in the EU.

Table 18 Spectrum Management scope and decisions in the EU

	Regulation and Article	Review of scope
Technological Neutrality	Recital §34 & §40: Considered, but may require transitional rules (2009 Better Regulation Directive)	In discussion (2013 Telecoms Single Market plan (TSM) draft regulation)
Spectrum Trading	Recital §39 & §40: Considered, but may require transitional rules (2009 Better Regulation Directive)	In discussion (2013 Telecoms Single Market plan (TSM) draft regulation)

Source: Author.

Both tradable spectrum rights and technological neutrality are debated within the EU. The ECC/CEPT 2011 report on spectrum underlines that some national licenses parameters in EU member states allow for partial transfer of usage right, according to the frequency allotment, geographical area and duration of the licence (ECC and CEPT, 2011). The 2009 Better Regulation Directive mentions that NRAs can allow spectrum users to freely transfer or lease their usage rights to third parties to allow spectrum valuation by the market (2009b:recital(39)). In the EU, the issue of saving spectrum for wireless broadband has been mentioned in the Telecoms Single Market plan (TSM) draft regulation of September 11 2013 (European Commission, 2013). It foresees the possibility of the EC mandating the re-assignment of spectrum for wireless broadband through procedures harmonised at the EU level.

With regards to the technological neutrality, the recital of the 2009 Better Regulation Directive also mentions that service and technology-neutrality should be the norm in all spectrum bands allocated to electronic communications. The recital of the 2009 Directive states that “[f]lexibility in spectrum management and access to spectrum should be increased through technology and service-neutral authorisations to allow spectrum users to

choose the best technologies and services” (2009b:recital(34)). Hence, one of the most recent changes in spectrum management is the fact that spectrum should not be tied to technology, as it evolves faster than policies. It appears that the EU has included both technological neutrality and spectrum trading in its 2013 telecommunications law, however, at the moment, they are only included in the recital (European Parliament and European Council, 2009b:(40)). The policy mentions that transitional rules may be additionally required to implement these ideas. This shows that for the EU, as well, the implementation of technological neutrality and spectrum trading regulation are at early stages.

4.3 Empirical observation of policy diffusion

This section focuses on all six case studies. The results are presented per country to facilitate the contextualisation of the telecommunications sector nationally. Each part starts with some information regarding the latest developments in telecommunications. The time frame and laws that are analysed in this part, correspond to the reviewed telecommunications framework dating back to the late 1990s and early 2000s. Earlier contextualisation can be found in next empirical chapter (Sections 5.2 and 5.3). The reviewed laws in the telecommunications sector were put in place in 1997 in Morocco (Telecommunications law No.24-96), in 1995 in Jordan (Telecommunications law No.13) and in 2003 in Egypt (Telecommunications Regulation Law No.10). All three countries have passed legislation allowing for full liberalisation of the sector, even if the state interest remains strong. Each of the countries has now three main mobile operators, owned fully or partially by the state, domestic and foreign corporations. A detailed account of ownership is presented in the last chapter of this thesis, when addressing the corporate environment in which policy making is taking place in the field of telecommunications (Section 6.2, Framework Proposition 1).

Following the short contextualisation, each sector case is then analysed closely according to both selected management ideas and both the product and the process. The six cases firstly describe the specificities of the policies according to the country and sector, with a particular focus on the chosen management ideas. It reviews the laws, programmes and policies, corresponding to an

analysis of the *product* part of policy adoption. To contextualise spectrum management cases a simplification of the national spectrum allocation chart for UHF and VHF is given. This facilitates the visualisation of the different types of allocation¹⁶. Following the analysis of the specificity of each case, a few words are given so to explain whether there is an interaction between two different models, for instance with the EU or with another jurisdiction. This corresponds to the analysis of the *process*. Finally, conclusive remarks are given regarding the role of the EU precisely in influencing policy adoption in the case studies. Table 19 shows the results of this analytical and methodological exercise. For each case and each management idea, the product and process is coded. Finally, a total rating is given for each case on the last line. An overview of the end results is proposed at the end of this chapter (Section 7.2.1, Table 20, page 147). The detailed methodology can be found in Chapter 3.

Table 19 Results of the observation of policy diffusion (detailed)

	Case Study (1) Morocco: USO		Case Study (2) Morocco: Spectrum		Case Study (3) Jordan: USO		Case Study (4) Jordan: Spectrum		Case Study (5) Egypt: USO		Case Study (6) Egypt: Spectrum	
	Idea 1	Idea 2	Idea 1	Idea 2	Idea 1	Idea 2	Idea 1	Idea 2	Idea 1	Idea 2	Idea 1	Idea 2
Process	+	+	+	+	+	+	+	+	0	0	0	0
Product	+	+	0	-	+	+	0	0	0	-	-	-
Total Product & Process	+	+	0	0	+	+	0	0	0	-	-	-
TOTAL	+		0		+		0		-		-	

Notes: Values: +: high policy adoption; 0: medium policy adoption; -: low policy adoption; na: Not Applicable.

Source: Author.

¹⁶ Only the main allocations for UHF and VHF are included in the simplified overviews and are grouped in six main types: 1. Fixed services (incl. fixed-satellite). 2. Mobile services (incl. mobile-satellite). 3. Radiodiffusion (incl. broadcasting satellite). 4. Aeronautical services (incl. aeronautical mobile & radionavigation). 5. Space, meteorological & Astronomy Services (incl. space operation & research, meteorological aids & satellite and radio astronomy). 6. Radiolocation (incl. Radionavigation & satellite, earth exploration & exploration-satellite and radiolocation).

Table 19 shows that two cases of high policy adoption are observed for USO in Morocco and USO in Jordan. Medium policy adoption is also observed in two cases, for spectrum management in Morocco and spectrum management in Jordan. Finally, the two Egyptian cases of USO and spectrum management are coded as low. A remark concerning the framework can be made at this stage. It is observed that policy process is often coded as equal or higher than the product. This is easily explained by the fact that the telecommunications sector is a cross-border sector which needs interaction for its efficient use and development. The product instead represents the incorporation of external ideas in the domestic policies. This is often more complicated to observe as the interaction itself, because external products are not automatically adopted in the domestic context. This confirms the importance of studying both aspects of the product and process and concludes in full knowledge, as to whether policy diffusion has taken place.

4.3.1 Case studies (1 & 2) Morocco

In Morocco, the telecommunications sector and the mobile phone subsector have experienced a thriving growth of mobile penetration from 8.1% in 2000 to 120% in 2012 (ITU, 2011b, ITU, 2014). Morocco's focus on ICT can be traced back to the early 2000s and has since then followed European developments closely. The support of the ICT sector by the government in Morocco also coincides with a change of government head. In fact the new King, Mohamed VI succeeded his father King Hassan in 1999. His aspiration to develop ICT and commitment to liberalisation reinforced the growth of the sector (ANRT, 2004). For instance, 2001 became a thriving year for the sector in Morocco, with the organisation of the E-Maroc Symposium in April, and the sale of 35% of Maroc Telecom to Vivendi, a French conglomerate (ANRT, 2004, Ibaehine, 2004). The ANRT confirmed the "irreversibility" of the ICT development in Morocco to meet its full potential in a booming international context and technological development. The importance of liberalising the sector and the need to attract investors was highlighted by underlining a "fierce competition to attract foreign investors"(ANRT, 2004). The Moroccan ICT sector has timewise developed similarly to the European ones. For instance, Morocco's attribution of 4G

licences took place in 2015, following France closely in 2011 (ARCEP, 2011) and the UK in 2013 (OFCOM, 2013).

Maroc telecom, also known as Itissalat al Maghrib (IAM) is the incumbent operator in Morocco. It was owned completely by the State and operated in fixed line until the late 1990s. It started operating in mobile telephony in 1994 (ANRT, 2007b). The second GSM licence was awarded in 1999 to Meditel, the second mobile operator (ANRT, 2007a). A third license was awarded to Wana (future Inwi) in 2006, in an effort to develop the telecommunications sector (ANRT, 2004, World Bank, 2014a:129). The three operators were awarded 3G licenses in 2006. In March 2015, the result of the call to award them three 4G licences was released (ANRT, 2015b, ANRT, 2015a). From the 2000s, Moroccan' ICT have been linked to a strong governmental support (ANRT, 2010). It was developed to become a diversified and modern telecommunications network. As Gentzoglanis mentions "[t]he establishment of an independent regulatory agency (ANRT), its dynamism, and its highly competent personnel has helped to transform the structure and performance of Morocco's telecommunications sector rapidly" (2003:94). Furthermore, the decision to meet its regulatory commitment to the GE06 and turn off all terrestrial signalisation by June 17 2015 (MINCOM, 2015) illustrates the importance that the Moroccan government gives in showing international competences in the field.

Case study (1): USO in Morocco

In Morocco, the USO provisions were mentioned in the Law n°24-96 of 1997. This law defines universal service as a minimum telecommunications service consisting of standard quality to an affordable level. Law 24-96 mentions that universal service includes services linked to territorial planning and added-value services and shall be included in the licenses of the incumbent (MINCOM, 2007:art.1(21)). This law confirms that licenses shall include USO provisions (MINCOM, 2007:art.10). As such, at the launch of the 1997 Telecommunications review, Maroc Telecom, the incumbent fixed operator was designated directly as the universal service provider at national level. However, this was soon reviewed and amended after realising that the model based on one sole universal service provider was not efficient. An expert from the ANRT

mentions that when liberalisation took place in Morocco in 1998, the ANRT realised that operators were covering the urban zones, which were the most profitable (Expert MO3, 2014, MINCOM, 2007). Hence, Morocco changed its USO policy in 2004 and it was further specified in the general guidance notes published for the 2006-2008. Morocco decided to introduce a “pay or play” mechanism where operators may either contribute to a USF or they can participate directly in projects identified by the ANRT as eligible to implement USO. Operators may either chose to answer calls from the ANRT or they can themselves propose a project, which needs to be reviewed and accepted by the ANRT. According to Expert MO5 from the ANRT, the Moroccan “pay or play” mechanism gives the choice to operators to decide on their actions. Furthermore, this expert states that the USF is managed by the Ministry of Finance and not the ANRT, to secure the independence and neutrality of the regulator in regards to the fund (Expert MO5, 2014).

In addition, the Moroccan USO policy planned the creation of a special committee to supervise the USO program. It is chaired by the Moroccan Prime Minister and consists of a ministerial representation, including the ministries of telecommunications, interior affairs, finances, territorial planning and national defence. In addition, this committee includes the president of the USO department at the ANRT and the General Director of the ANRT, who has a consultative voice (MINCOM, 2005: art.10(1)). This committee meets once a term and may at all-times consult any other Ministry if needed. Expert MO5 from the ANRT, mentions that this represents a “Mini-Government”, which shows the importance of the USO policies in Morocco (Expert MO5, 2014). An expert from the e-commerce Ministry underlines the high social responsibility of USO to answer the basic needs of integration and access of all citizens. He argues that this unique Committee “plays a double role, as the social guarantor of citizens in precarious situations and the guarantor of USO as a whole” (Expert MO1, 2014). It can be observed that USO provisions in Morocco are very well included into a social discourse and the need to provide basic health and safety services to the whole population. The creation of a mini-government and the attention taken to provide a transparent and adequate service is a notable motivation behind the creation of the Moroccan “Pay and Play” project. The concept of social guarantor is used by the EU as well, but in a slightly different

approach. The 2002 USO directive defines USO as a set of obligations of the member states to protect the consumers (European Parliament and European Council, 2002(2)). USO becomes a social right (Batura, 2016:54). This is interesting to show a similar institutionalised duty to provide USO to the citizens.

In the case of USO in Morocco, interactions across models have taken place. The “Pay or Play” programme was elaborated after a study in 2002 from a Canadian consultancy group, which presented several models to be followed. Among others, the Peruvian model was given as well as some European cases. Expert MO5 of the ANRT mentions the Latin American experience, well renowned at the World Bank and at the ITU, in particular Peru (Expert MO5, 2014). The Latin American cases in USO have long been advertised by academics and international organisations (Carril, 2000, Donoso Abarca, 2002). Chile established the Chile’s Fondo de Desarrollo de las Telecomunicaciones in 1994 and proposed the first competition in 1995 (World Bank, 2011:161). The 2011 World Bank describes these funds as follows “[c]ompetitive tenders are also called reverse auction or minimum-subsidy auction because the qualified bidder with the lowest request for a subsidy wins the tender” (World Bank, 2011:161). The Latin American system, based on competitive tendering, was closely integrated in the reviewed USO policies in Morocco. However, the role of the EU was also present in the field research and most experts underline the use of both Latin American and European models to best adapt their own “pay and play” mechanism. Expert MO5 from the ANRT mentions decidedly that thanks to the Latin American and European benchmarks, the 2004 Moroccan regulatory review allowed for a re-assessment of the process and the decisions to go towards market mechanisms were taken (Expert MO5, 2014). Expert MO3 of the ANRT also mentions that the Moroccan experience of USO got its inspiration from what had been done in Europe and was then broadened to fit the Moroccan context (Expert MO3, 2014). This shows that interaction between different models took place in Morocco. The EU and other models were used for inspiration.

Regarding mobile telephony, the Moroccan programme grew very differently to the ones in the EU. In fact, according to an expert from the ANRT, the Moroccan USO focus has directly been put in the GSM network, which is a European standard aimed for mobile telephony (Expert MO5, 2014). From

2004, a broad USO initiative took place in Morocco to analyse GSM penetration. A map analysing the available network infrastructure was produced including a detailed geographic map. In 2007 the PACTE project covering around 10,000 villages was created (Expert MO5, 2014). Expert MO5 explains that the task was given to 4 operators during 4 years and the coverage is close to 90% at the moment and covers a broad range of technologies. For instance, coverage includes terrestrial technology, such as GSM, 2G, or 3G (Expert MO5, 2014). Hence, Morocco has applied technological neutrality in its USO programs since its start. Expert MO5 of the ANRT mentions that due to technological neutrality, the USO PACTE project was described as “voice & telephony” services and not specific techniques (Expert MO5, 2014). Hence, the ANRT received propositions from a variety of technologies, in particular terrestrial and satellite technologies. The awarding of the mandate was difficult due to different categories of prices for the proposed technologies. Expert MO5 mentions that “[g]iving the mandate was not obvious. Satellite and terrestrial technologies do not cost the same, they are not comparable. We defined selection criteria and the methodological approach. We discussed with each operator to explain it all” (Expert MO5, 2014).

Regarding ultra and ultra-fast broadband as well, the Moroccan and the European models differ greatly. According to expert MO5, the PACTE programme succeeded in bringing up to 90% of coverage to the whole territory and to around 99% of the populated areas. However, much remains to be done in terms of infrastructure quality. In particular, the ANRT now receives requests to obtain the 3G (Expert MO5, 2014). In this context, an expert from Maroc Telecom argues that the USO in Morocco still has many years to go. The PACTE territories have almost been totally covered but in practice, several areas remain without coverage and in particular, the infrastructure needs to be enhanced (Expert MO11, 2014). A review of the telecommunications law, law n° 121-12 foresees the extension of USO to high and very high speed, such as 3G (ANRT, 2012, MINCOM, 2014). In November 2015, this document was still pending with the government (Iraqi, 2015). Hence, the “Pay and Play” mechanisms focusing on both mobile telephony and broadband internet represents a very different approach to the EU model. However, it is apparent

that the EU model was used, among other models, to create the most adequate programme, even if this led to a divergence of policies.

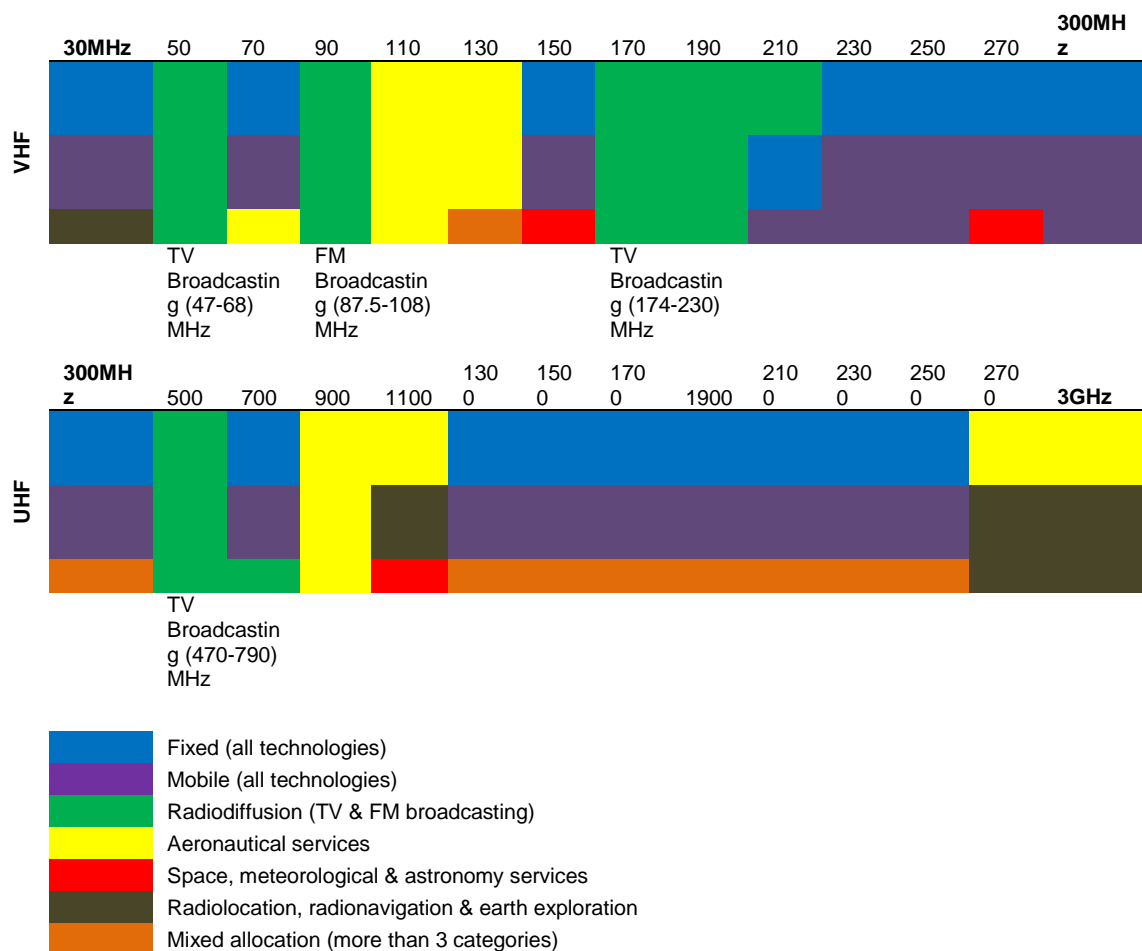
Finally, in the case of USO in Morocco it is distinctly observable that both the product and the process can be traced back to other models that have been used domestically in Morocco. For this case study, the key role of the Latin American cases is evident. The role of the EU was also observed. However, its model was not integrated in the Moroccan model without questioning. In fact, the EU model was assessed and lessons were learned from it, but it was not adopted without questioning. Expert MO3 from the ANRT, mentions that the fixed telephony infrastructure was already well spread in the EU countries, thus USO was less difficult to impose (Expert MO3, 2014). However in Morocco, the situation differs as around half of the population lives in the rural world. Furthermore the population is well dispersed across the country. According to this expert, this represents a typical example of where the model is not transferrable as such. He states “[w]e have used the USO concept but we adapted it to our needs” (Expert MO3, 2014). It can be observed that in the case of USO in Morocco, the policy-makers modelled the available systems to their own needs, which, and according to them, succeeded in guaranteeing a better exploitation (Expert MO2, 2014).

Case study (2): Spectrum Management in Morocco

In Morocco, the law No. 24-96 mentions that the ANRT is responsible together with the relevant Telecommunications ministry for the management and the monitoring of spectrum. The ANRT is expected to participate in international, regional and domestic meetings to improve regulation and management of spectrum (MINCOM, 2007:art.29). The ANRT is also to act as a delegate to the Ministry to manage and control the frequency allocations and licenses (MINCOM, 2007:art.29). The mobile and fixed services, aeronautical, security and radio diffusion services are all managed by the ANRT. The only exception concerns the HACA, who manages the TV and FM spectrum in coordination with the ANRT (MINCOM, 2003:art.5). In 2012, an agreement was signed between the ANRT and the HACA to ensure the assignment of frequencies in coordination with each other and with neighbouring countries. This agreement came as a step towards the transition to DTTB in Morocco (ANRT and HACA,

2012). The DTTB plan was completed on July 22 2015 with the approval by the Moroccan chamber of representatives of the law No. 96-14 modifying and completing law No. 77-03 regulating audiovisual communications. This modification to the audiovisual law aims at meeting the technological changes required by the GE06 agreement. MINCOM mentions that this agreement reflects the commitment of Morocco to meet its transition deadline of June 17 2015 for UHF and June 17 2020 for VHF bands (MINCOM, 2015). Figure 4 shows a simplification of the 2013 Moroccan spectrum allocation chart, which does not include the latest transition steps operated by Morocco. It is almost identical to that of Egypt on page 145.

Figure 4 VHF & UHF Spectrum allocation in Morocco



Source: Author. Based upon the 2013 Moroccan Frequency Allocation Plan (ANRT, 2013).

In the spectrum management sector, Morocco has shown notable commitment to embrace technological advances in parallel to the European peers and at the

international level. Technological developments in the EU and in other countries are closely watched and assessed. Expert MO3 of the ANRT mentions that there is little delay between spectrum management in the EU and in Morocco. He gives 4G as an example and mentions that “[w]e are liberating our 4G spectrum. The call for tender will be in 2014. We have one year or one and a half year delay, but not more with the European Countries” (Expert MO3, 2014). The call was published in 2015, with all three operators, Maroc Telecom, Meditel and Wana being awarded 4G licences in the bands 800 MHz, 1800 MHz and 2,6 GHz (ANRT, 2015b, ANRT, 2015a).

Regarding the two management ideas as well, Morocco is closely linked to innovative practices in the field. Morocco applies theoretically technological neutrality in the allocation of spectrum. The ANRT underlines that in an effort to support growth of the telecommunications sector, mobile operators may use several technologies to operate their bandwidth (ANRT, 2004). In practice, however tenders are often linked to a certain generation of mobile phones, which limits in some ways the scope of technological neutrality. For instance, the 2015 tender aimed specifically at the 4G licences, in such cases, the technologies linked to 4G may vary, but they must be linked to 4G standards. Spectrum trading is also at the centre of discussion in the development of telecommunications in Morocco. The Moroccan government is not only thriving in the improvement of the mobile sector, it also supports the development of ultra-fast broadband internet. In 2012, the ANRT established a 10-year plan to develop high-speed broadband networks to the whole population (ANRT, 2012). This document shows the sophistication of the ANRT experts in embracing innovative solutions to improve ICTs. However, several experts of the ANRT mentioned the limits of these reflections, in Morocco as well as in Europe. Expert MO7 of the ANRT mentions that “[t]here is a reflexion in Europe on unlicensed spectrum, spectrum sharing, and white spaces. It is a reflexion we also follow (...) however, it is important to first look at technical conditions and then assess how to translate it to our regulation (...) it is still at an early stage at the moment, even in developed countries” (Expert MO7, 2014). In Morocco, no evidence of the use of spectrum trading in practice was observed, even if the discussion is followed by policy-makers.

Interaction across jurisdictions in the sector of spectrum management is apparent in Morocco. Morocco shows parallelism with European countries in its spectrum management decisions and allocation. An expert of the ANRT mentions that spectrum management is a sector where the activity is quasi identical among countries. He states that frequencies are “colorless, scentless. They propagate beyond borders. The use of these resources is the same everywhere” (Expert MO3, 2014). Furthermore, this expert states that there are international agreements and everybody must follow the ITU rules (Expert MO3, 2014). The parallelism between European countries and Morocco is more obvious with the specific relationship between Morocco and France. One of the Experts of the ANRT mentions the close relationship between the ANRT and the French National Frequency Agency (ANFR)¹⁷ (Expert MO7, 2014). However he deplores the lack of resources of the ANRT in comparison to the ANFR, which manages the whole spectrum in one single entity, independently from the French telecommunications NRA, the Regulatory Authority for Electronic Communications and Postal Services (ARCEP). Expert MO7 mentions the level of expertise of the ANFR, in France, is an advantage. He mentions that “[a]t the ANFR, there are experts working specifically on the national spectrum and others on international management. It is very efficient in terms of representation at conferences, but it has a cost and of course this cost is justified for France, but concerning Morocco, we cannot afford the same means” (Expert MO7, 2014).

Despite not having the same means as France as mentions Expert MO7, it appears that Morocco is close to the European developments in the sector. In many ways, Morocco has shown commitment to compete with the European peers and also at the international level. Moroccan experts from the ANRT underlined the importance to tackle future frequency needs and specified the use of British consultancy groups assessing the potential need in audiovisual

¹⁷ In France, the ANFR manages the spectrum globally, in particular regarding international coordination. In addition, the ANFR works in coordination with the French Ministries who manage some parts of the spectrum as well, for their own needs, such as the Ministries of Defence, Civil Aviation or Meteorology. In addition, it coordinates spectrum with the High Audiovisual Council for audiovisual spectrum needs and ARCEP for electronic communications (ARCEP. 2014. *Les Fréquences en France. Grands Dossiers* [Online]. Available: <http://www.arcep.fr/?id=8807> [Accessed Oct. 23 2015].)

and mobile sectors by 2025 (Expert MO7, 2014). To conclude, in the case of spectrum management in Morocco, a noticeable parallelism to what is taking place in Europe is observed. The European systems and regulatory innovations are closely watched. Technological neutrality is embraced in theory, even if in practice, the focus on 4G technologies shows ambiguity with this principle. This is however the case in Europe as well. Regarding spectrum trading, the concept is used in discussions within the ANRT. However, it is still at an early stage. This is similar to the EU as well, where the application of the concept has not been fixed in policies yet.

4.3.2 Case studies (3 & 4) Jordan

In Jordan, as in Morocco, a booming growth of the ICT and mobile phones and internet was observed in the last decades. Mobile phone penetration increased from 8.1% in 2000 to 128.2% in 2012 (ITU, 2011b, ITU, 2014). Progressive reform of the ICT and postal sectors started in 1994. In 1995, the Telecommunications Law No.13 was passed and the Telecommunications Regulatory Commission (TRC) was established. Similarly to Morocco, the accession to power of King Abdullah II following his father in 1999 brought a generation of state officials putting the development of the ICT at the core of their agenda. Major initiatives were undertaken to build an ICT industry to create employment and spread social and economic development (Westrup and Al-Jaghoub, 2007:12, Mofleh et al., 2008:4, Kulchitsky, 2004:35). In Jordan, a major review of the Telecommunications law took place in 1995 and was amended in 2002. It was supposed to be reviewed in 2015 (INTAJ, 2012:9), however, Expert JO3 confirmed that the MCIT withdrew the new Telecommunications Act, stressing that there was no need at the moment for a new law to govern the sector, and that the current law is practical and sufficiently suitable for the sector (Expert JO3, 2014). Changes in the constitution in 2011, following the political turmoil in the region have affected the sector without directly amending the telecommunications law (Kingdom of Jordan, 2011). This is the case concerning the dependence of the TRC to other government bodies. The TRC is now directly reporting to the Ministry of Telecommunications, instead of reporting to the President (Expert JO3, 2014).

Jordan is a case with a determined focus on competition and regulatory innovativeness as is Morocco. Its desire to outperform other major players in the region has been described by Ciborra and Navarra who argue that Jordan may have become a textbook case for its vision to become the Singapore or Bangalore of the Middle East in the adoption of ICT (2005:145). In 1995, Jordan had become the first country in the Arab region to enact a modern telecoms law and to establish an independent regulatory body (INTAJ, 2012:10). For instance, Jordan Telecommunications Company (JTC), the incumbent phone operator, owned by the government was progressively reformed to meet liberalisation standards. By 2008, the government had removed all ownership. A majority of shares were sold to the Orange Jordan Group (Orange Jordan, 2008:49). The first mobile license in Jordan was granted in 1994 to Fastlink, which was then acquired by the Kuwaiti group Zain in 2003 (Zain, 2014). In 1999, JTC was granted the second license to provide mobile services and became Orange mobile a year later (TRC, 2009a, Orange Jordan, 2014:18). A third mobile operator, Umniah, was licensed in 2004 (TRC, 2009a). It was acquired by Batelco, a Bahraini consortium in 2006 (Batelco, 2013:61). The focus on competition and the avant-gardist liberalisation of the sector is adequate to Jordan. However, a weak economy and infrastructure coupled with a difficult geopolitical situation led to smaller steps in its market-oriented policies in the field.

Case study (3): USO in Jordan

In Jordan, the USO provisions are mentioned in the Telecommunications law No. 13 of 1995. In 2004 a general government policy for Universal Service was published by the Government, which was followed by several consultations undertaken by the TRC concerning the overall principles of USO and the content of the regulations (TRC, 2006:1). This consultative work was materialised in an Information Memorandum on USO published in 2006 by the TRC (TRC, 2006). The government also published several statements on USO, which clarify Jordan's position in the field (MOICT, 2007, MOICT, 2011). The 2013 National Strategy of Jordan foresees the revision of USO policy from December 2014 to ensure the correct balance between the freedom of operators to offer competing services and the need to ensure affordability and

availability of services across Jordan (MOICT, 2013:27-8). The TRC and MOICT formed a committee to review the USO policy, however Expert JO8 confirmed that no official outputs would be published before the beginning of 2016 (Expert JO8, 2014). Thus the output of this review is not included in this thesis.

The Telecommunications law No.13 is not very specific when concerning USO. The first chapter of the law mentions that the universality of service refers to the provision of a minimum set of ICT services in areas and communities. The facilitation of the provision and use of such services are delineated by the terms and conditions specified and modified as needed by the Commission (TRC, 1995:Art.2). The 2004 government policy on USO gives more precise information. It states that “[a] universal ‘service’ obligation or a universal ‘access’ obligation is a requirement placed upon telecommunications licensees to serve particular geographic areas or groups of citizens where it may be perceived that without the imposition of the requirement those areas or groups would not be given the opportunity to take service” (MOICT, 2004:Art.1.1). This definition makes a difference between Universal Access and Universal Service “to the extent that universal access may be met by the provision of service to practical centralised location in a geographic region, for example to payphones or to community centres, rather than through the provision of service directly to individual homes or premises” (MOICT, 2004:Art.1.1). The Jordanian USO framework focuses on connecting the population rather than territories. It mentions that USO shall be available in all municipalities and populated areas with a population of 300 or more permanent inhabitants. Exceptions may be delivered upon request (MOICT, 2004:Art.1.6.1). This law foresees that USO provisions are based on access and there is no decision taken regarding the use of a specific technology to deliver USO.

In practice, there is one universal service provider in Jordan and it is selected by the TRC. The selected operator is JTC and USO is based on fixed telephony services. Telecommunications law No.13 mentions that one of the TRC’s role is to select licensed operator(s) to be Universal Service Provider (MOICT, 2004:Art.1.4(c)). In fact, the 2004 Government policy foresees that until there is effective competition to the fixed operator, JTC will continue to be the USO provider in all geographic areas and will continue to bear the entire cost of the

USO under the terms of licence (MOICT, 2004:Art.1.8). This was still the case during the field research conducted in April 2014. In Jordan, the possibility to establish a universal service fund exists. Art.86 mentions that a fund may be established to increase the universality of telecommunications and information technology services and contribute to the expansion and development of infrastructure of these services (TRC, 1995:Art.86). However, this was never implemented in practice. As such no fund has been established to cover the fees of the fixed telephony USO provider.

Mobile phones and broadband internet are not included at the moment, in the Jordanian definition of USO. The 2004 Government Policy on USO mentions that Universal service shall include the Basic Public Telephone Service, comprising of minimum necessary standards for customers to make and receive local, national and international calls supporting speech, facsimile and data communications sufficient for functional access to internet services. Functional internet access shall be made available and be equivalent in data rate, reliability and continuity of service to that used by a majority of subscribers. This shall take into account technical factors that may limit the performance of such technologies in certain geographic locations (MOICT, 2004:Art.1.5). An interesting feature of this article is that the concept of optimal technology may be determined by the TRC, hence leaving the possibility to challenge or refresh the position on USO (MOICT, 2004:Art.1.5). The frequency of reviewing the law is planned for every four years (MOICT, 2011:art.2.6.1).

While conducting the field research in Jordan, the decision to include mobile telephony and broadband internet in the USO scope was being debated. The interviewed experts from the TRC confirmed the fact that neither mobile telephony nor broadband services shall be included (Expert JO7, 2014, Expert JO8, 2014). This is surprising, as the 2011 statement of the government mentions that mobile telephony and broadband internet access should now be the basic communications services for the purpose of universal service and that if within the next two years market forces do not make broadband internet access with a download speed of 1 Mb/s. available on non-time-related tariffs, measures will be taken (MOICT, 2011:art.2.6.1). Expert JO7 underlined that the decision not to include the broadband and mobile market telephony in USO was taken, because “[t]he current policy definition is limiting towards USO (...) In

general, current USO policies only includes basic telephony services and directory services” (Expert JO7, 2014). This opinion was, however, not shared by a second expert who mentioned that actually the USO definition as it exists could include broadband internet as well, as the definition is not really precise. However, he mentioned that the decision not to include both the mobile and broadband services in the definition was taken by the TRC and the government, with the reasoning that such services shall result from a private choice of the consumer and not from a service given by the government (Expert JO8, 2014).

In the case of USO in Jordan, the interaction with external models is almost uniquely focused on the EU. Several experts mentioned their will to follow EU legislation in the field (JO6, 2014). It was straightforward from the interviews that important interactions existed between the development of the Jordanian’s legislation and the EU model. For instance, the existence of a Telecommunications twinning between the Jordanian TRC and two European NRAs was often mentioned to confirm interlinkages between both regions (JO2, 2014, JO3, 2014). The position to leave mobile and broadband services to the consumer as a private choice is very close to the EU position, where reviews of USO also concluded that broadband and mobile telephony needed not to be in scope for the USO (European Commission, 2011:6). An expert from the Ministry of Telecommunications says that the issue of inserting broadband services in the USO is an argument they have with the TRC, however, this expert states that “[t]his is a concern, as even in the EU, it (*broadband*) is not included, so why should we?” (Expert JO1, 2014). It can be observed that in the case of USO in Jordan, the development of the policy has taken a very similar stance to that of the EU. During the 2013 review, neither mobile phones nor broadband internet were included in the USO scope, which is confirming the EU position in this regard.

Case study (4): Spectrum Management in Jordan

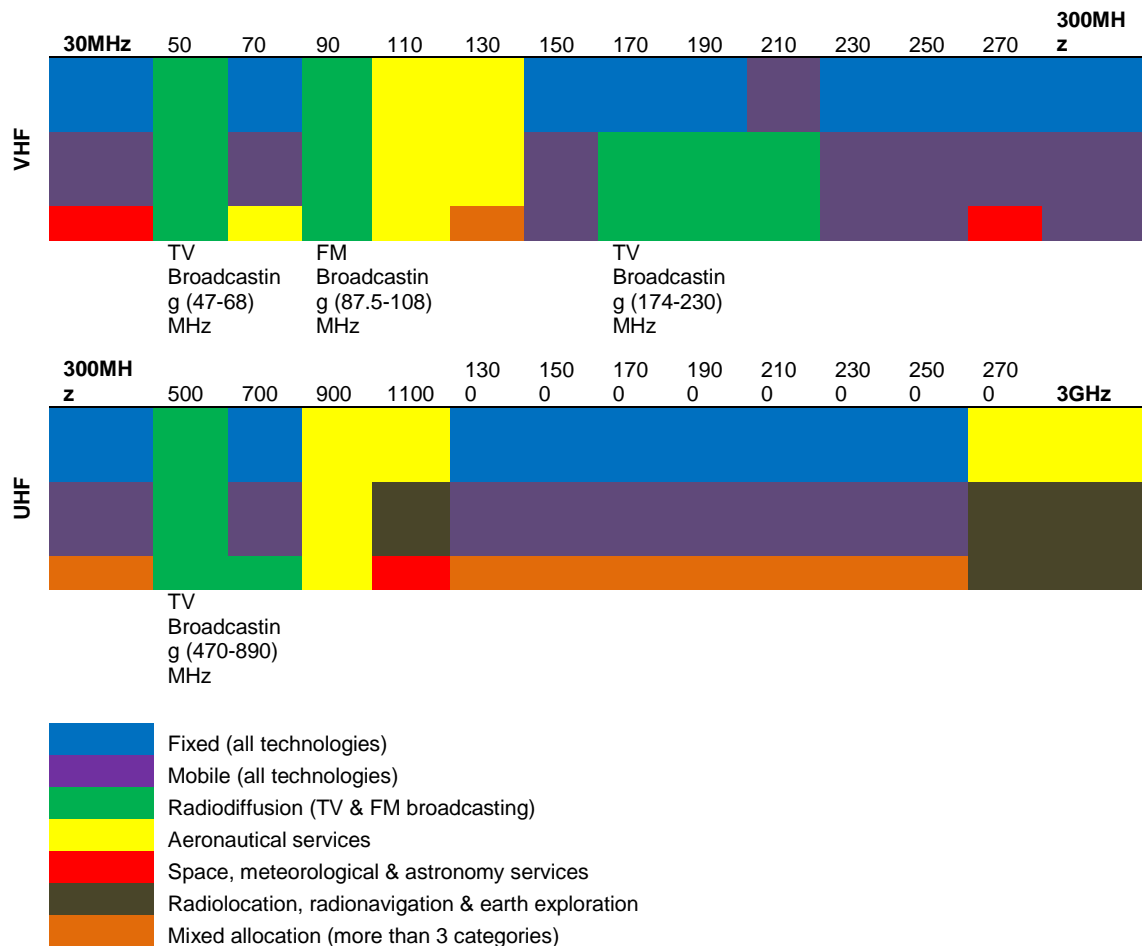
In Jordan, the MoICT enables the TRC to prepare the national plan for frequency allocation and national register of frequency assignment. Spectrum provisions are included in chapter V of the Telecommunications Law No.13. It is described as a national resource, the use of which shall be regulated by the Commission in accordance with the Law. It further specifies that the TRC

prepares the tables, plans and registers that are necessary for this purpose (TRC, 1995:Art.30). In fact, Jordan has had an avant-gardist focus on its spectrum management since the early 2000s. The 2003 Policy Statement launched the National Broadband Network and the e-government programme (MOICT, 2011). It was followed by the 2007 Policy Statement on unified licences and reviewed market dominance. The number of telecommunications licenses rose and wireless operators received frequency bands (MOICT, 2011:6). In 2011, a government statement promoted the development of quantity and quality of service, underlining the key role of spectrum to improve the development of the telecommunications market (MOICT, 2011:Art.2.5.3). The statement foresees that the TRC uses market-based valuations for spectrum, such as auctions and administrative incentive pricing. The TRC is also entitled to take prompt, but proportionate, steps to investigate interference complaints, stop illegal spectrum use and address other interference issues (MOICT, 2011:Art.2.5.3). It can be observed that in this case the TRC is delegated by the MoICT to both run auctions and is allowed to investigate interference complaints and illegal spectrum use. However, according to Sweis and Baslan, the awarding of spectrum is not as transparent as it could be, as a rejection to award spectrum does not need to be documented (2013:52).

It is important to recall that spectrum management in Jordan is also closely linked to military control, even if the country is a remarkable supporter of competition in the field. In fact, the 1995 Telecommunications law No.13 mentions that while no person may use any electromagnetic waves below 3'000 gigahertz transmittable in space without obtaining a license, the Jordanian Armed Forces and Security Departments, in coordination with the TRC may use Radio Frequencies allocated and assigned for their use without a license (TRC, 1995:Art.31). The 2013 National ICT Strategy also mentions that a review of spectrum use shall include from October 2016 an agreement with the military on how to make use of freed spectrum in specific cases. Such written agreement shall define the circumstances and duration of when spectrum can be recovered by the military (MOICT, 2013:28). This delineates a notable weight of the military in spectrum allocation. Figure 5 show the 2009 VHF and UHF spectrum allocation in Jordan. While it is similar to Morocco, it can be observed that spectrum between 170 MHz and 230 MHz is shared between TV and fixed and

mobile operators, which is not the case in Morocco, where the band is uniquely given to TV broadcasting (TRC, 2009b, ANRT, 2013). This confirms that Jordan has had an early interest in harmonising and opening up spectrum bands for private use since the late 2000s (MOICT and TRC, 2008).

Figure 5 VHF & UHF Spectrum allocation in Jordan



Source: Author. Based upon the 2009 Jordanian Frequency Allocation Plan (TRC, 2009b).

Both technological neutrality and spectrum refarming have been mentioned and underlined in a series of government statements and policies (MOICT and TRC, 2008, MOICT, 2007). The 2007 Statement of Government mentions that the TRC adopts wherever possible advanced spectrum management principles, including a technology and service neutral approach to spectrum; spectrum reuse; and spectrum sharing (MOICT, 2007:art.68(f)). It also mentions that the TRC awards spectrum according to the market demand, using auctions and possible secondary trading when appropriate (MOICT, 2007:art.68(j)). An expert

of the TRC mentions that Jordan is in line with the ITU and neighbouring countries and has now acquired a “modern spectrum management tool”. He adds that Jordanian policy includes the questions of reframing, white spaces (Expert JO4, 2014). The 2013 National ICT Strategy mentions that spectrum management needs to be reviewed starting in July 2014, to further develop the use of advanced spectrum management principles including spectrum re-use, spectrum sharing, and the potential for secondary spectrum markets (MOICT, 2013:28). This shows that the Jordanian spectrum management policies are very well in line with EU and international practices in the sector.

However, some experts from the corporate sector deplore the fact that the TRC and the Ministry do not implement their regulation. The expert of Zain for instance mentions that the TRC and the government had told the operators that they would be committed to implement technological neutrality (Expert JO9, 2014). However, this did not take place in practice. He mentions that, technological neutrality was not implemented so far and that “nothing can be done here. The restrictions force you to keep the same allocation and technologies. We can’t mix the bands. We cannot provide any other service, and this is a problem” (Expert JO9, 2014). This expert argues that if this has been the case so far, it is because the government get more fees of selling new bands rather than implementing technological neutrality on the existing allocation (Expert JO9, 2014). This shows a discrepancy between regulation provisions and implementation. Jordan is very well aligned in terms of policies, but shows limitations in the implementation of certain policies. For instance the digital switch-over has not yet taken place in Jordan and as such, the liberation of more bandwidth, has not yet been possible.

The 2013 National ICT Strategy mentions that starting from January 2015 and for a duration of six month a review concerning spectrum management must be implemented to identify what additional spectrum could be freed up by switching to digital transmission (MOICT, 2013:28). Effectively, expert JO5 of the TRC mentions that even if they do discuss white spaces and reframing, the technical context does not allow the implementation of such management ideas. He further mentions that technological neutrality is not applied in Jordan and will probably not be implemented soon, as it depends on how intensely the operators would push for this topic and it does not seem like an urgent concern

to them at the moment. To him, this can be explained because of the size of the Jordanian market which is very small and not pushing enough in this direction (Expert JO5, 2014). In this case a discrepancy is observed between the policies in terms of spectrum management, which are showing a close parallelism to international and European best practice in the sector and the practical context, which is not yet ready to implement such ideas.

Regarding interactions between different models and the role of the EU, it was observed in the case of Jordanian spectrum management, that the policy development in the sector is closely linked to international practice in the field, due to its cross-border characteristic. One of the heads of the TRC mentions that spectrum management is not a national issue and that the ITU plays a very important role in this case (Expert JO4, 2014). This expert mentions that “[t]he planning is in line with the ITU and in coordination with the neighbouring countries” (Expert JO4, 2014). However, it appears that much attention is drawn towards the EU, as a key benchmark, due to its technical expertise and consequent market dominance. Expert JO5 from the TRC mentions that Jordan has to follow the biggest markets in the region, as it makes more sense from a technological and also geostrategic point of view. This expert mentions that the TRC does benchmarking with the EU in the spectrum management area, in particular concerning spectrum pricing, spectrum planning, allocation and licensing practices. This expert mentions that “[w]e get the most useful information from the EU, because we are allocated into the same region 1 and the technologies we use originate from the EU, such as GSM, UMTS. It makes more sense to follow the EU rather than the US in this aspect” (Expert JO5, 2014). In this case, it is apparent that management ideas, technological neutrality and spectrum trading are included in Jordanian policies. The role of the EU in this context is also confirmed.

4.3.3 Case studies (5 & 6) Egypt

Telecommunications services in Egypt have followed an exponential growth as in Jordan and Morocco. Mobile penetration in Egypt has risen from 1.9% in 2000 to 119.9% in 2012 (ITU, 2011b, ITU, 2014). The Telecommunications law No.10 was put in place in 2003 and established the NRA. Developments in the telecommunications sector in Egypt have been characterised by avant-gardist

policy reforms, such as the launch in 2007 of 3G mobile services, where Egypt was the first African country to do so (NTRA, 2008). Egypt has also seriously considered implementing unified licences for both fixed and mobile services¹⁸, this project has however been put on hold until further notice (Expert EG5, 2014). This shows also the weakness of the Egyptian telecommunications market, marked by backwards policy structures, with a notable involvement of the state in all aspects of telecommunications services paralysing potential reforms.

In Egypt, dynamic development of the sector mostly took place between 1998 and 2011, illustrated by two changing political orientation of the country. The renewed dynamism of the sector can be found in the architect of the new ICT Ministry founded in 1998, Dr Ahmed Nazif, who later became prime minister of Egypt in 2004, until his cabinet was dismissed in 2011 by President Hosni Mubarak following the 2011 political events (Abdulla, 2007:19, NTRA, 2007:1). Abdullah argues that Nazif's experience as former CEO of a large private corporation and a former professor of computer engineering gave him impetus to steer the MCIT towards deregulation and privatisation of mobile telephony and internet services in Egypt (2007:19). The dynamism of the telecommunications sector in Egypt decreased after 2011 following the political turmoil in the region. The expert of Vodafone said that before 2011, it was a different world and the telecommunications sector underwent important changes, largely undertaken by the action of Dr Ahmed Nazif (Expert EG5, 2014). The 2011 political upheavals shed a paralysing light on the developments of the sector. This had an impact on the quality of the field research. Several experts did not feel confident to discuss personal views on

¹⁸ A unified license for both mobile and fixed phone services permits the licensee to offer a full range of services, via any technology platform. Ideally, in such cases, the spectrum allocated could be used for different services by the same phone company. This change in authorisation regimes is notably due to the convergence of fixed and mobile services and technological advances, which have eroded traditional market boundaries and have heightened the importance of neutrality and flexibility in authorisation regimes. Unified licenses are likely to produce a rebalancing of phone companies in Egypt as once the unified license is established, Telecom Egypt will be capable of competing with the three existing mobile phone companies, thus rebalancing the profits and market strategies (WORLD BANK. 2011. *Telecommunications regulation handbook; 10th Anniversary Edition* [Online]. Available: http://www.itu.int/dms_pub/itu-d/opb/reg/D-REG-TRH.01-2011-PDF-E.pdf [Accessed August 8 2015].)

the sector and most official interviews confirmed the governmental view on the subject. It needs to be taken into consideration when analysing the gathered data.

In Egypt, the extensive role of the state in phone companies can be easily observed when analysing ownership of fixed and mobile companies. The fixed service operator is Telecom Egypt (TE) and is owned in majority by the government (Telecom Egypt, 2014). Similarly to both Morocco and Jordan the mobile phone landscape is shared by three mobile phone operators. MobiNil is the main player in the field. It received its licence in 1997 and a 94% share was bought by the French Orange Group in 2012 (Mobinil, 2012). The second mobile telephony player received its mobile licence in 1998 under the name of ClickGSM. Its majority shareholding was bought by the British group Vodafone in 2007 (55%). The remaining 45% of the company are owned by the Egyptian government (Telecom Egypt, 2010:30). In 2006, a third mobile license was awarded to the Emirati company Etisalat, which owns 66% of the company. Furthermore, shares of Etisalat are owned by the Egyptian National Post Authority (20%) and the National Bank of Egypt (20%) (Oxford Business Group, 2011). In Egypt, the government is involved in two out of three mobile companies, plus the fixed line company, showing the close governmental involvement in the telecommunications sector. This has led to issues of transparency or lack thereof, favouritism and stagnation of the market.

Case study (5): USO in Egypt

Two articles mention USO in the Telecommunications law No.10, however, their scope is relatively narrow and in both cases, USO is not distinctly described. Firstly, the law states that telecommunications services shall be compliant with the provision of Universal Service (NTRA, 2003:Art.2). Secondly, the Telecommunications Law No.10 mentions that when granting licences, one of the obligations includes the consideration of USO (NTRA, 2003:Art.25). This means, that in Egypt, the provisions of USO may be given to operators through the awarding of the license, which is monitored by the NTRA. The substance of USO is to be found in the 2005 regulation published by the NTRA, which focuses on implementation, funding, scope and aims of USO (NTRA, 2005). This regulation is published in Arabic and no official translation is available. As

such, it was translated by a bilingual academic researcher specifically for the use of this research (NTRA, 2005). To complement the 2005 USO regulation and cross-check the English translation, several documents and communications are useful. The NTRA released a publication on USO in 2006. In addition, less formal publications are available such as the USO webpage of the NTRA website (NTRA, 2014a) and an informal summary received by one of the NTRA employees directly during the field research (NTRA, 2014b). It is available upon request.

USO in Egypt follows two different paths. On one side, USO in the telecommunications law is undefined and left for the NTRA to decide. The 2014 communication received during the field research, confirms that “unlike what happens in EU Countries (...), where the regulatory framework clearly defines content, features and scope of the universal service, as well as the procedures to identify the operator who is obliged to provide it, the Egyptian Law does not impose direct Universal Services Obligations” (NTRA, 2014b). Hence, the Telecommunications law does not define and neither does it impose directly USO, but indirectly entitles the NTRA, notably through the licenses, to detail such requirements onto designated operators (NTRA, 2014b). In fact the 2014 communication underlines that the law provides leeway to the NTRA to include a number of provisions in the license and may as such introduce USO for the incumbent, in this case Telecom Egypt (NTRA, 2014b). However, the policy also mentions that the situation is not fixed and depending on the development of the market and new technologies, this situation may be reassessed (NTRA, 2005). Expert EG5 from Vodafone confirms that in Egypt, TE is not the USO provider, as no USO provider exists as such in Egypt (EG5, 2014).

On the other side, several communications and publications define USO closely to the EU policies in the field and propose a clear definition and scope. USO is described as an inevitable right to all citizens, with the aim of promoting political, economic and cultural cohesion leading to economic development (NTRA, 2006:2). These policies underline the necessity to provide basic and affordable public telecommunications services to all citizens, in economically non-feasible regions, including, access to public telecommunications networks being local, national or international, including fax and data services with speed rates that allow access to the internet (NTRA, 2006:2, NTRA, 2005). In this context a fund

exists to cover infrastructure projects, reallocation of the frequency spectrum, national projects and indemnifying telecommunications companies for price differences between the approved economical price for the service and that which may be determined by the state in favour of the user (NTRA, 2003:Art.9). This fund consists of the contributions of operators and providers in the communications networks. The percentage of contributions in the fund reaches 1% of the totality of the revenues (NTRA, 2005). However, Expert EG5 of the NTRTA states that USO contributions were mentioned in the telecoms licenses but were never requested by the government due to the amount of investment the telecommunications companies were already spending in the sector. This changed in 2012, when the government asked for a participation of 0.025% of the revenue (Expert EG5, 2014).

USO projects funded by the USO funds only recently took life in Egypt. The results of calls to build smart IT cities in the South Sinai Governorate and the North Sinai Governorate were published in 2014 (NTRA, 2014a). The implementation of the USO project is very local and linked to few uncovered areas. Expert EG3 mentions that these calls focus on creating business friendly smart cities (Expert EG3, 2014). This type of project, based on infrastructure building of smart IT cities, is not a typical form of USO and an Expert from Cullen International mentions that according to him, this does not conform to USO policies in a European sense (EU20, 2014). However, when discussing with the corporate companies about the concept of smart cities, they did not understand the concept and Expert EG5 from Vodafone mentioned that the call had been specifically aimed at providing mobile phone coverage to three cities in South Sinai and no mention of smart cities as an objective was published in any way (EG5, 2014). Wadi Feran was allocated to Vodafone Egypt, Sarabeet Elkhadem to MobiNil and Wadi Soaal to Etisalat Misr. The rights are allocated via the USO fund (EG5, 2014). The misunderstanding between the experience of the corporate sector in USO and the discourse of the NRA is revealing in the Egyptian case and shows a grey area between what the TRC wishes to achieve, the Smart Cities, and the completion of the project, which is so far linked to the service provision of mobile services in three cities of South Sinai.

In Egypt, both the use of mobile phone and internet broadband are not adequate to analyse the development of the sector. In the theoretical concept of

smart cities, both mobile phones and internet broadband are included. It is however, not a typical form of USO. It is difficult to conclude that interactions with external models have led to this result. The focus on smart cities is very different to the EU, Moroccan and Jordanian models. In general, USO in Egypt does not follow the regional trends in the field. An expert of the NTRA mentions that one of the first aims of Egypt in terms of USO is to make people understand that national broadband projects are not only about the connection itself, but about the ecosystem beyond the connectivity (Expert EG3, 2014). This echoes the 2011 National Broadband strategy emphasising the need to analyse the requirements of the broadband ecosystem in Egypt (NTRA and MCIT, 2011:10), illustrating a different approach to implement USO than the EU.

Nevertheless, interaction between the models exists with the EU. However, as for Morocco, Egyptian policy-makers did not feel that the EU model was adequate to the Egyptian context (Expert EG3, 2014). He mentions that “[i]f you look at the EU countries, you see that there is only obligation on the incumbent. We believe in other things. We finance projects from the USF for areas where there is no economic feasibility to build networks, for example in Sinai, in the desert. That is where we can use USO to provide services, which would not be provided if it weren’t for the USF” (Expert EG3, 2014). The Vodafone Expert also mentions that Egypt is a particular place in terms of population, where 7% of the land is inhabited and thus, it does not make sense to insist for coverage in the whole territory (Expert EG5, 2014). He is also very straightforward in terms of the limitation of the EU model and mentions that the EU model is based on subsidies for the fixed line, which is not something applicable to Egypt. In this case study, it is observed that even if the adopted law in 2003 mentions USO and is further outlined in the 2005 regulation, the implementation of USO projects has actually not taken place until recently. The USO call to provide mobile services in South Sinai was only published in 2014 and does not resemble other known projects in the area. However, as mentions Expert EG5 from Vodafone, Egypt is only in the first years of realization of USO projects, and it is still too early to come to any conclusion (Expert EG5, 2014).

Case study (6): Spectrum Management in Egypt

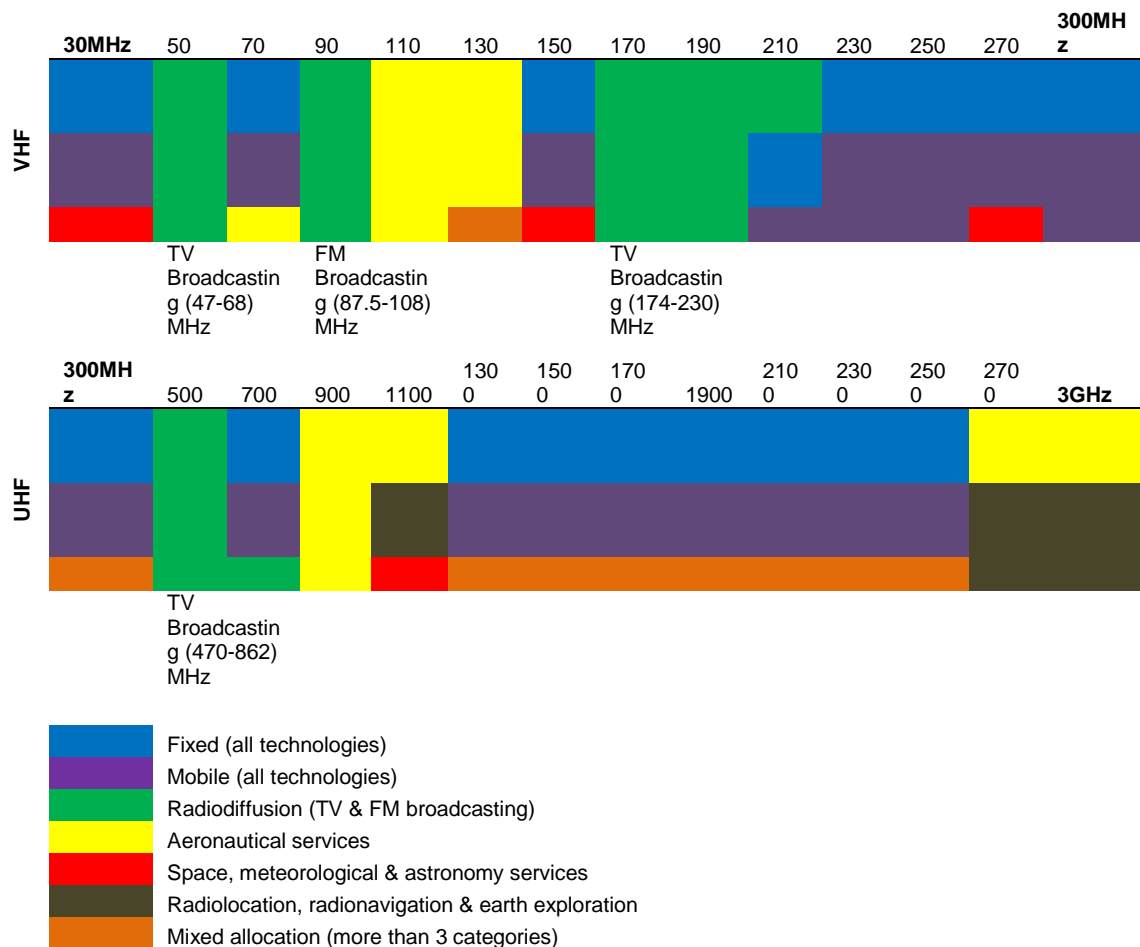
Chapter 4 of the Telecommunications regulation law No.10 deals with frequency spectrum management and usage licensing, stating that frequency spectrum is a limited natural resource and the NTRA is the entity responsible for regulating and managing all matters related to it in accordance with the provisions of this law (NTRA, 2003:Art.49). The NTRA shall set the frequency spectrum plan to realize its optimum use in accordance with the ITU (NTRA, 2003:Art.50). The focus on spectrum and the establishment of broadband in Egypt has been substantial in the last decade. In 2004, the “Broadband initiative” was launched as part of the e-access program of the information Society Initiative announced by former President Mubarak in December 2003 at the WSIS in Geneva (NTRA, 2007:1, MCIT, 2003). It was then reviewed in 2006 and 2007 focusing on continuous improvement and adjustment of the service and the liberalisation of the sector (NTRA and MCIT, 2011:10). It focused on several technical and infrastructure developments, but also aimed at spreading the awareness of the benefits of broadband to the public, similarly to the USO projects (NTRA, 2009:5). This idea of an ecosystem of technologies is embodied clearly in the Smart Village built in the outskirts of Cairo. Both the MCIT and NTRA are based there, in addition to all mobile phone operators and other IT industries present in Egypt such as Intel, Hewlett Packard, IB, Siemens, Microsoft and Oracle (Abdulla, 2007:42).

One of the major characteristics of the Egyptian spectrum allocation system is the role of the military. In Egypt, the Ministry and regulators co-manage the spectrum together; however a substantial amount of spectrum is controlled by the army, which makes it difficult to reform the sector. The Frequency Regulation Committee is headed by the NTRA spectrum regulation chairman. This Committee also includes representatives of the Ministry of Defense and Military Production and the Affairs of State facilities, the Ministries of the Interior and of the Communications and Information Technology and a representative of Radio & TV Union (NTRA, 2015). The telecommunications regulation law No.10 mentions that licenses shall be issued with due consideration to the requirements of the Armed Forces and National Security Entities (NTRA, 2003:Art.51). The law also mentions that the NTRA shall have the right to use all the means, to detect unauthorised frequency in coordination with the Armed

Forces and National Security Entities (NTRA, 2003:Art.55). As Abdulla mentions, the spectrum allocation process in Egypt is very politicised and transparency is limited in that regard (2013:59). The expert from Vodafone mentions that the problem with spectrum in Egypt is the control of the army. He mentions that “[t]he army controls the spectrum and the Ministry and Regulators co-manage it but cannot do anything without the army approval” (Expert EG5, 2014). This both represents a lack of transparency and accountability and leads to inefficient allocation and regulatory practices.

In Egypt, the digital switch-over has not yet taken place. In addition, there is no spectrum shortage in Egypt. As such, there is not much pressure for changes of the situation. The expert from Vodafone mentions that even in the context of military control of spectrum, there is no real issue and no shortage of spectrum, similarly to Jordan (Expert EG5, 2014). In this case, there is no significant internal pressure towards changes in spectrum management, due to the availability of spectrum for the main Egyptian stakeholders. Thus, in terms of the pressures of the market, in Egypt as in Jordan, the pressure of allocating spectrum is less than in some EU countries. Expert EG5 from Vodafone mentions that “[f]or the existing voice and data needs, the spectrum we have is enough” (Expert EG5, 2014). Figure 6 shows the 2004 VHF and UHF spectrum allocation in Egypt. It is almost exactly similar to the Moroccan one. The digital switch-over has not yet taken place in Egypt.

Figure 6 VHF & UHF Spectrum allocation in Egypt



Source: Author. Based upon the 2004 Egyptian Frequency Allocation Plan (NTRA, 2004).

In Egypt, technological neutrality and spectrum trading are discussed in the context of the broadband initiative. One of the heads of the NTRA mentions that spectrum management is a very important and complex sector which needs urgent optimisation. This expert mentions that they do look at EU topics such as spectrum trading, technological neutrality, but they need to come out with a clear strategy of what they want to do with the resources and how to manage them first. This expert mentions that the NTRA is planning the digital switch-over around 2016 and infrastructure shall be built to become the backbone to absorb the whole capacity of bandwidth (Expert EG3, 2014). He mentions that spectrum management “needs dynamic resources allocation, recycling; we need to assess how we can free the spectrum” (Expert EG3, 2014). He mentions how important it is to organise and plan the migration from analog to digital, in order to free spectrum management for newer technologies, in

particular the 4G (Expert EG3, 2014). The use of technological neutrality and spectrum trading in internal discussions to develop the sector is visible in Egypt. However, the sector is not yet ready to implement such ideas. Expert EG5 from Vodafone mentions that current EU concerns, such as spectrum trading or technological neutrality are not the priority in Egypt. He mentions that “[w]e are very far from it. We are still dealing with issues such as auctions and whether there will be a frequency diagnostic” (Expert EG5, 2014). It can be observed that in the case of spectrum, both technological neutrality and spectrum trading are not part of the Egyptian priorities, even if they are discussed domestically.

Interaction of Egypt with other models exists. The NTRA 2007 publication mentions that Egypt has actively participated in all ITU sectors (NTRA, 2007:9). The interaction with EU models was also observed, however, the sector is paralysed for several reasons. These reasons include the close government control in the field and the general instability of the climate in the country. Expert EG5 from Vodafone deplores that Egypt is not following international agreements as it should. He mentions that “[w]e have been members of the WTO for years and we have obligations to deregulate the market, but we are now nine years late” (Expert EG5, 2014). For several experts of the Egyptian telecommunications sector, the paralysis with spectrum policies is neither due in majority to the army control nor the availability of spectrum, but it is the quality of infrastructure, which cannot cope with newer technologies. Expert EG5 mentions that to rent the infrastructure they pay 10 times more than in Holland and the service is minimal (Expert EG5, 2014). In this case, state monopoly is a problem in terms of infrastructure provision and may slow down policy changes. Hence he mentions that things will change only when Egypt gets a permanent cabinet and adds “until then it is difficult to make any plans happen” (Expert EG5, 2014). Hence, interaction with the EU and international fora has taken place. Experts in the sector are aware of management trends in the field. However, the government control in the field, linked with the general instability in the country, has created a certain paralysis of policy innovations. The recent elaboration of the unified license however, shows how avant-gardist Egypt can be in the sector.

4.4 Conclusion

This chapter analysed all six case studies in detail. An analysis of the USO and spectrum management policies was given for the three countries based on a selection of laws and policies and expert interviews gathered during field research. The two sectors were analysed according to two management ideas, each outlined by characteristics of product and process. Table 19 on page 119 gave the detailed outcome of the chapter's analysis. Based on the results of Table 19, Table 20 only gives the overview of the results, which allows for more clarity.

Table 20 Results of the observation of policy diffusion (overview)

	Case Study (1) Morocco: USO	Case Study (2) Morocco: Spectrum	Case Study (3) Jordan: USO	Case Study (4) Jordan: Spectrum	Case Study (5) Egypt: USO	Case Study (6) Egypt Spectrum
Idea 1	+	0	+	0	0	-
Idea 2	+	0	+	0	-	-
TOTAL	+	0	+	0	-	-

Notes: Values: +: high policy adoption; 0: medium policy adoption; -: low policy adoption; na: Not Applicable.

Source: Author.

Both the detailed version of Table 19 and the overview version of Table 20 illustrate the main findings of this chapter. Empirically, this framework shows that high policy adoption is observed in two cases: USO in Morocco (case 1) and USO in Jordan (case 3). Medium policy adoption is observed in two cases: spectrum management in Morocco (case 2) and spectrum management in Jordan (case 4). Finally, low policy adoption is observed in the two remaining cases: USO in Egypt (case 5) and spectrum management in Egypt (case 6). Two main observations can be made based on this table. Firstly, Egypt scores lower than Morocco and Jordan in both sectors. This suggests that a state-level difference between the three country cases exist. This is discussed in detail in the next chapter of this thesis (Chapter 5). Secondly, the table shows that in Morocco and Jordan, USO policies are more significantly adopted than

spectrum policies. This suggests that a sector difference may be at play in these cases. The last empirical chapter discusses this issue (Chapter 6).

High policy adoption is observed in the Moroccan USO model (case 1). In this case, the influence of the European model was observed, but also that of other actors in the field. This empirical research showed that other models were discussed such as the Peruvian one. In addition, it was made clear in the interviews that the Moroccan USO model had been modelled and shaped according to the Moroccan needs and capacity. The USO model in fact includes both mobile telephony and internet as opposed to the EU model. It is described by most Moroccan Experts of this research as an efficient mechanism adapted to the Moroccan context. Hence a focus on performance is apparent. It can be observed that policy adoption has taken place in this case, but it has not led to a convergence of policies with the EU, but to an adapted model based on different influences to fit the Moroccan context.

High policy diffusion is observed in the Jordanian USO model (case 3) as well. In this case, the observation of other models is perceptible as well. However, there is a focus on the EU uniquely. The decision not to include mobile phones and broadband internet in the USO definition is very similar to the EU decisions in this sector. The Jordanian USO is based on one fixed telephony USO provider, JTC, now part of the Orange group. There is no specific interest in efficiency and as Expert JO1 from the Ministry of telecommunications states “[r]ight now, we have a USO policy, but to be frank with you, it isn’t as effective and efficient as it is supposed to be” (Expert JO1, 2014). There are remarkable parallels between the EU model and the Jordanian ones, despite differences in the domestic contexts.

Medium policy adoption is observed in the Moroccan spectrum management model (case 2). In this case, it is apparent that a close observation of the EU model is taking place. Several experts mentioned that being part of the ITU Region 1 together with the EU, has often led Morocco to adopt European technological norms and practices. One of the experts of the ANRT mentions that “[t]he EU develops norms in relation to this (*Region 1*) spectrum area, Morocco as a member of this region, needs to take them into account” (Expert MO7, 2014). Technological neutrality is included in Moroccan legislation. The implementation of spectrum trading is however more difficult to observe.

Several experts mention that this reflexion is followed by Morocco, as it is in Europe. However, in both cases, it is at early stages still (Expert MO7, 2014).

Medium policy adoption is observed in the Jordanian spectrum management model (case 4) as well. In this case, the focus on the EU is straightforward. Expert JO5 from the TRC mentions that Jordan follows the biggest markets in the region. It states that the TRC uses the EU to do benchmarking concerning spectrum pricing, spectrum planning, allocation and licensing practices. In that regard, the ITU allocation (Region 1) pushes the TRC to look at the EU models and technologies, rather than the US (Expert JO5, 2014). Technological neutrality has been included in the license since 2007. Concerning the questions of spectrum trading, the policies include them but technologically the country is not yet capable of implementing such a policy fully. This leads us to observe the process of diffusion, but the observation of the diffused laws themselves is less obvious.

Finally, two results show low policy adoption in the cases of Egypt. In the case of Egyptian USO policies (Case 5), both in terms of product and process, the links between the EU and Egypt are only limited. The scope of USO has been narrow, until the recent calls to provide mobile telephony in three cities of South Sinai. Such programmes are not standard in terms of USO projects. In this case policy adoption is not taking place extensively. The EU model is addressed by the policy makers, but it is not taken into consideration due to its inadequacy with the Egyptian context. The second case refers to Egyptian Spectrum Management policies (Case 6). It appears that spectrum management policies are limited by several factors, including the control of the military over the regulatory authority, the availability of spectrum, which does not require urgent changes in management and the delay in technological development, which does not allow for the adoption of EU trends at the moment. In this case, it appears that Egypt is aware of trends in the field, however, the domestic context does not allow for policy changes to take place significantly. In both the Egyptian cases, policy diffusion takes place to a limited extent.

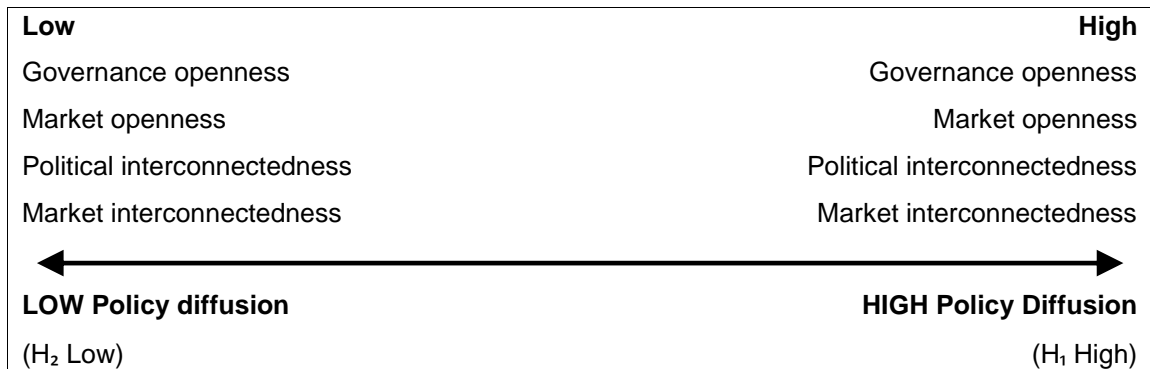
5 CHAPTER 5 – Conditions leading to policy adoption

5.1 Introduction

This chapter presents the second empirical step of this thesis and answers the first sub-question: under which conditions does a state adopt a policy that originated elsewhere. It explores the conditions under which policy adoption occurs. This thesis argues that the conditions leading to policy diffusion are linked to different degrees of vulnerability of the adopting countries to external actors (Section 2.3). This vulnerability is defined by four variables, which reveal the levels of governance and market openness of a state and its political and market interconnectedness with external actors. The focus on vulnerability to external actors is based on two statements. Firstly, that states engage in policy diffusion because of the similarity of problems, forcing them to look abroad for potential inspiration (Majone, 1991:103, Rose, 1991:7) and secondly, due to the interdependence of decision-making abroad and domestically (Gray, 1973:1176, Gilardi, 2010:660). Their measurements are based on statistics from the OECD and the World Bank statistical databank and on indexes from two different research initiatives; namely the World Bank's WGI and the Bertelsmann Foundation's BTI.

The four variables are governance openness, which is defined as the degree to which a country is taking into account the rule of law and the work of regulatory authorities; market openness, which is described as the reliance on national and international market forces to regulate the economy; political interconnectedness, which is defined according to the political reliance on external countries, in terms of foreign aid. Finally, market interconnectedness is defined as the degree of international trade interdependence, in terms of the importance of the private sector in the domestic economy and the role of FDI. Figure 1 illustrates the two opposing hypothesis regarding conditions leading to policy adoption (H_1 High and H_2 Low) (firstly shown in Section 1.4, page 22).

Figure 1 Conditions leading to policy diffusion

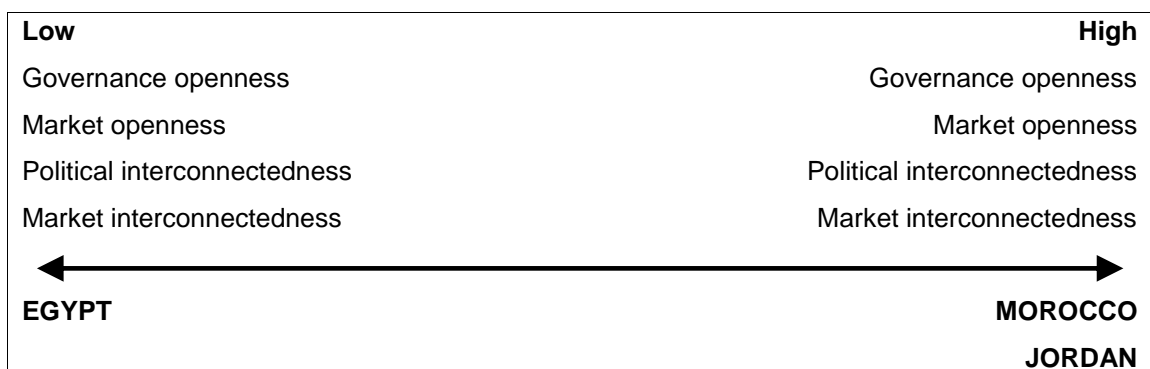


Source: Author.

Figure 1 outlines the two first hypotheses that are assessed in this chapter. The first hypothesis (H₁ High) proposes that the higher the degree of governance and market openness, political and market interconnectedness, the higher the probability of policy diffusion taking place. It also outlines the second hypothesis (H₂ Low). It states that the lower the degree of governance and market openness, political and market interconnectedness, the lower the probability of policy diffusion taking place.

Based on these two hypotheses the assumptions of the country case studies were defined in Section 1.5.1. It is argued that due to the linkage of Jordan and Morocco to external partners, for instance regarding trade with the EU for Morocco and Jordan, such countries are likely to engage in policy adoption more readily than Egypt, which is on all points more autonomous than both Morocco and Jordan (Table 2, page 28). Figure 2 illustrates this relationship (firstly shown in Section 1.5.1, page 29).

Figure 2 Country-cases assumptions



Source: Author.

The idea that Morocco and Jordan are more likely to adopt policies that originated externally than Egypt has been already put forward in the previous chapter (Sections 4.3 and 4.4). It was observed that in both Jordan and Morocco, policy adoption cases were more systematically observable than was the case for Egypt. This suggests that a country level difference exists between the three country cases. This proposition is addressed in this chapter's analysis.

To understand the validity of the four variables described above, it is important first, to introduce certain aspects of political economy and regulatory governance key to Arab countries as a whole and in particular to Morocco, Jordan and Egypt. These states have gone through different phases since they obtained independence from colonial powers in the 1950s and 1960s. Various economic and regulatory reforms have restructured the relationship between the state, the citizens and the market. In fact, telecommunications is a case in point to illustrate how governments have gone through a transformation over the last sixty years. The aim of this chapter is not to propose an in-depth analysis of the development of the state-market relationship in the Middle East since independence. However, it clarifies several parameters that need to be taken into account when addressing current regulatory developments in the Arab world and particularly in the three country case studies selected.

To do so, this chapter is divided as follows. The first section focuses on the contextualisation of the MENA region with the aim of bringing a historical and political economy background to the four selected variables of governance and market openness and political and market interconnectedness. It supports the understanding of current trends in state-market and domestic-foreign relationships. This part focuses on the timeframe since the independence of MENA countries to the 1980s and 1990s, where major economic and structural reforms were undertaken in MENA countries. The second section of this chapter deepens the understanding of the three country case studies of this thesis since the 1980s and 1990s. Egypt, Jordan and Morocco are described as using the trends explained in the first section, but mostly focusing on the turning point represented by the adjustment measures that these countries underwent before the millennium. The third section of this chapter focuses closely on the selected states variables since the years 2000s. It discusses the state variables framework in light of the contextual regional backgrounds.

5.2 Contextualising the MENA experience

This part addresses the MENA context generally. It is divided into four subsections, with each of them contextualising one of the four selected variables used in this framework. In practice, all four parts are linked with each other, but the identification of few characteristics for each variable supports the analysis of this chapter. The first subpart describes the context of governance in MENA countries. It relates to the variable of governance openness. This is characterised in the Arab world by the expansion of the bureaucracy, which took place after independence. Ayubi describes bureaucratic growth as a mixture of the expansion of the state's role in society, the tendency for bureaucratic organisations to expand and the inertia to dissolve organisations or reduce their scope once established (Ayubi, 1995:289). The presence of this bureaucracy and inertia of its institutions is key in the MENA region and can still be observed to some extent nowadays.

The second subpart links the expansion of bureaucracy to state-led economies, which is a widespread feature of MENA countries. It aims to contextualise the second variable of this framework, that of market openness. In MENA countries economic development has been linked in many ways to the expansion of state's bureaucracies post-independence. Alavi argues that "[t]he state in the post-colonial society directly appropriates a very large part of the economic surplus and deploys it in bureaucratically directed economic activity in the name of promoting economic development" (1979:42). This illustrates how economic activity has been channelled in the MENA countries post-independence. Both the bureaucratic expansion and the features of state-led economies, which are typical of MENA systems, have had a wide-ranging impact, which is discussed in more detail below.

The third subpart of this section reviews the concept of economic dependence and particularly the concept of rentier states. It underlines the fact that several MENA countries have built their economies on non-domestically produced income. This is linked to the variable on political interconnectedness. Rentier economies render the states highly dependent on external developments. This has had important historical consequences, which are relevant to this contextualisation for several reasons. First of all, as the vulnerability of adopting states to foreign influence is discussed, rentier economies present an

appropriate study case. It also shows who are the main regional and international actors in the MENA region and which events have affected the economies of Arab countries. Jordan is a case in point as it is often classified as a non-oil rentier economy (Anani and Khalaf, 1989, Rivlin, 2013) and bases large parts of its economy on non-domestically produced income. This makes the country highly vulnerable to foreign influence. Egypt and Morocco also present some characteristics of rentier economies (Rivlin, 2013). This is notably the case due to labour remittances from nationals working in Gulf States or the sale of fossil energy, such as phosphates in Morocco.

To finalise this contextualisation, the fourth subpart focuses on the fiscal crisis of the MENA states and the move towards restructuring measures enforced by international lenders and their financial bodies such as the World Bank and the IMF. This is linked to the variable of market interconnectedness. Such reforms became widespread after the 1980s' recessions. Morocco engaged with major structural adjustment programmes in 1983, Jordan in 1989 and Egypt in 1991. These measures have enforced principles, such as austerity, cutting off subsidies, liberalisation and privatisation and often resulted in traumatic experiences, creating widespread social unrest and unsatisfactory results (Butkiewicz and Yanikkaya, 2005, Easterly, 2005). These measures altered the MENA's economic systems dramatically. This provides an adequate contextual background to the variable of market interconnectedness and the reliance on FDI in MENA countries.

Bureaucratic expansion post-independence

The expansion of the state in MENA countries occurred immediately after the independence from the colonial powers. Ayubi mentions that it was led by a variety of factors including a historically centralised tradition reinforced by colonial rule. It was also a consequence of a huge expansion in the area of formal education and its links to public types of employment. The presence of weak entrepreneurial elites also supported an exceptionally important role of the state (Ayubi, 1988). The expansion of the state has been a broad phenomenon, regardless of size, colonial legacy or ideology. Chatelus and Schemel mention that public sector expansion has been one of the main vehicles used by state

elite to create a unified state (Chatelus and Schemeil, 1984). Large states became characteristic of the MENA countries post-independence.

Ayubi mentions that the process of bureaucratisation that swept through the Arab World since 1950s can be measured by the expansion in public bodies, such as the numbers of administrative units, personnel and expenditures. It can also be seen as an orientation whereby the administrative and technical aims dominate the social ones, which leads to centralisation, hierarchy and control (1995:296). Amin analysed the different types of enterprises under state-control and mentions that the public sector by the late 1950s rarely extended beyond irrigation works and public utilities. However, by mid-1960s, agriculture, oil, retail trade, housing and small-scale industry had become predominant in several countries of the MENA region (1980:84). However, the expansion of the state post-war has not only been a characteristic of lesser developed countries. In fact, Jackson's study on bureaucracy focuses on the post-war post-industrial society. He mentions that "[i]n the post-war post-industrial society, the range of government activities has been rapidly extended to include an expansion of the welfare state, protection of the environment and consumers, regulation of industry and the military complex" (1982:3). As such, the expansion of the bureaucracy was not a uniquely MENA phenomenon and in several ways, post-industrial countries also experienced an extension of the civil servants. This is even clearer with the nationalisation of industries post-war, such as telecommunications, which took place in both developing and more developed countries.

In the 1970s however, it became apparent that strategies of development through large administrations were unable to solve problems as planned. It became apparent that bureaucratic expansion was dysfunctional, outweighing its positive aims (Ayubi, 1995:313). Ayubi mentions that "[a] relative growth in gross national product (GNP) in the 1950s and 1960s was soon to decline from the early part of the 1970s in most of the non-oil exporting countries, while many basic needs remained unsatisfied" (1995:313). The financial and economic malfunctioning of both state intervention and public-enterprise sectors from the 1970s has also been outlined by Richards and Waterbury (1998:205). Hence, while at the start, bureaucracy could be seen as an instrument of modernisation and development, it nonetheless became soon too large to

absorb all resources and penalised private enterprises (Ayubi, 1995:309). In fact, before becoming redundant the development of a state-led growth economy brought a series of successes which are underlined below. It nonetheless reached its limits in a difficult economic context.

State-led economies

Bureaucratic growth and state-led economy grew hand in hand in MENA countries post-independence. Bureaucratic expansion slowly reached its dysfunctional peak. It is nonetheless important to remember that such a system also led to several successes and created positive socio-economic effects for several years and even decades, notably in terms of employment (Richards and Waterbury, 1998, Richard Adams and Page, 2003). El-Said and Harrigan underline the value of this social contract, where the government provided social welfare in return for loyalty from the population for the political regimes in power (2014:101). The expansion of the state post-independence has been referred to as the emergence of the “patron state”, where the state both embraced the role of the business entrepreneur and the provider (Harik, 1992). Harik mentions that the rise of the state to the position of major businessman was achieved by assuming greater economic initiative and was maintained by mass mobilisation and bureaucratic regulation (1992:1-2). The successes of the MENA expansive states should not be underestimated and the difficult context in which it developed also put pressures on MENA states to cope with the environment. Richards and Waterbury argue that state-led growth achieved a great deal and that was “no mean achievement considering the rapidity of population growth, the heavy burden of defense expenditures, the limited natural resources base apart from oil, the initially low levels of literacy, and the perennial political instability of the region” (1998:205). The successes of expanded bureaucracy brought at first solutions for several of the weaknesses inherited post-independence.

This phase of expanded bureaucracy and state-led economy is illustrated by the nationalisation process of telecommunications. While the years before independence were characterised by the ownership of telephone companies by foreign governments or firms, it increasingly represented the embodiment of foreign intervention in domestic affairs. Noll argues that there is no wonder that

the first act after independence was to nationalise firms, which embodied foreign interference in domestic affairs and to hold them under the newly formed domestic government (2000:8). He argues that developing countries decided to implement strategies escaping from colonial influences. Therefore, infrastructural industries such as telecommunications, which were important and visible, represented a source of anticolonial resentment and were quickly nationalised (2000:8). Foreign ownership became a natural target to be abolished after independence. The nationalisation of telecommunication services was not unusual in that time and neither was it uniquely taking place in developing countries. All colonial powers, such as Britain, France, Portugal and Spain were using nationalised telecommunications models (Bauer, 2010c). This reiterates the idea that the expansion of the bureaucracy post-war, was actually not only a characteristic of developing countries and but also more developed and industrialised countries followed this path (Michalis, 2007, Simpson, 2008). These strategies were followed with relative success until the end of the 1980s.

The successes of monopolies confirm Jackson's idea that "there is nothing straightforward about the concept of public sector efficiency (...) much of this discussion about public sector efficiency applies with equal force to the private sector of an economy" (1982:210). In Europe, monopolies, such as the ones in the telecommunications sector did not underperform and did not prevent growth (Joskow, 1998, Snow, 1985). Hence, the direct phase following the nationalisation of the telecommunications sector, developing countries experienced a short term increase in investment. Moreover, Galal mentions that state ownership was often preferred to private ownership due to insufficient knowledge about the future impact of reform, the lack of experience in regulating private monopolies and the fear among producers that assets could be expropriated through under-pricing of output, taxation of profit or outright nationalisation (1999:133). However, this did not prove efficient in the longer term and the state industries were in fact only seldom competitive and suffered both from price and technical inefficiencies. The telecommunications sector soon experienced a deterioration of its services and infrastructure (Wallsten, 2001). This coupled with domestic-price distortions led to both a wrong set of produced items and the marginalisation of infant industries (Richards and Waterbury, 1998:205). The telecommunications sector is a case in point to

show the move from nationalisation to privatisation, experiencing different phases from relative success to slow decline in performance and efficiency.

Rentier economies and the role of foreign aid

MENA economies post-independence were characterised by an intense centralised power of the state and a heavy bureaucracy. This picture needs to be complemented by the rising economic dependence and vulnerability to external actors that MENA countries have increasingly shown post-independence. This dependence is most distinctly observed through the growing needs in borrowing from foreign governments and international financial markets to feed the citizens, maintain the welfare state and keep up with production (Harik, 1992:2). This rising financial hole in MENA countries led to an increasing dependence on advanced industrialised nations, instead of successfully reaching autonomy from them (Harik, 1992:2). The reliance on foreign aid and external borrowing to maintain the level of the state is key to most MENA economies and has had a key role in the fiscal and budget crisis of the states post-1970s.

The use of the concept of rentier economies gives additional clarity to the increasing dependence on external actors. A rentier states economy relies on foreign rent to support the population and the economy. Foreign rent is usually described as revenues from the export of energy resources such as oil, in the case of rentier states. However, foreign rent can also relate to foreign aid or labour remittances, which is more generally included in the concept of rentier economies (Luciani, 1987:69-75). Foreign aid and debt write-offs may also be considered as types of rental income (Rivlin, 2001:65). These different forms of rent share the same characteristic namely that they emanate from foreign sources and are not generated through domestic production (Chaudhry, 2007). In rentier economies the role of the state as a recipient and dispenser of rent is smaller than in a rentier state. However both remain closely linked. In fact, expatriate worker remittances and economic aid in MENA countries are often directly or indirectly resulting from the areas' oil wealth (Brand, 1992:168-9). Jordan illustrates this interlinkage between oil states and rentier economies. It is commonly referred to as a "non-oil-producing oil economy", where most of the gross domestic expenditure is estimated to have derived from direct grants and

budget support loans from the neighbouring oil-exporting countries (Anani and Khalaf, 1989:211). The case of Jordan is explained in further detail in next part (Section 5.3.2).

One of the main consequences of such economies is that rentier economies are vulnerable to economic and political development of countries on which they depend. This dependence may be on richer oil or non-oil states in the region, countries outside the region or international financial organisations, such as the IMF or World Bank (Okruhlik, 1999). These sources of income are unstable and depend on economic and political conditions abroad. In fact, regional and international developments in the 1970s and 1980s had a direct impact on the economies of the MENA countries. In many ways, the fluctuation in oil prices and the different armed conflicts of the area contributed to the acceleration of the fiscal and budget crisis of several Arab countries and ultimately led them to restructure the economy following the principles of the IMF, World Bank and major lenders. As Richards and Waterbury mention, the reliance on external sources of investment finally led to the accumulation of large external debts, including, foreign borrowing and aid from the US, the EU and capital-surplus oil exporters of the Gulf (1998:206). The deficiencies of the large bureaucratic and state-led economies in MENA countries led to major restructuring of the economies, of which impact is still visible nowadays.

Declining performances and the path towards restructuring

The 1980s represented a challenging environment and most Arab borrowers experienced a major increase in foreign debt. The collapse of oil prices in early 1980s let the oil-rich Arab states decrease their aid to other Arab states. Countries were increasingly forced to borrow more in order to finance important investments (Rivlin, 2001:70). Richards and Waterbury underline the failure of state-led growth to close the twin gaps between domestic savings and investment and between exports and imports that contributed to accumulation of large foreign debts (1998:207). Progressively, Arab countries followed the path of liberalisation and privatisation, representing a prominent change to the era of centralised-economy and bureaucratic expansion of the previous decades.

The crisis of the 1970s and 1980s created a radical change in political economy. Particularly, state-led economies gradually embarked in the trend towards fiscal, monetary and international trade balances. Cook also argues that the accelerated interest in liberalisation undoubtedly arose from the perceived failures of state control and intervention (1986:1). The large debts that countries in the MENA gradually confronted narrowed their leeway. The influence of lending agencies became core to the policy process (Richards and Waterbury, 1998:207). Facing collapsing economies, developing countries were forced to adopt regulatory measures following external pressures providing short-term rescue (El-Said and Harrigan, 2014). In all three countries of this research, both the debt and the burden of financing it rose sharply until all three were deeply engaged in structural adjustment programs.

The case of telecommunications sector again illustrates the crisis of the state convincingly. Noll argues that the growing inefficiency of nationalised telephone companies being strengthened by high number of employees and the use of telecommunications revenues for government budget, led to a lack of investment funds (2000:10-2). The lack of cash flow in such an investment intensive sector gave no chance for the sector to overcome its crisis. Regulatory and legal institutions proved incapable of providing credible commitments for potential investors and finally, legal restrictions on FDI exacerbated the problems of attracting capital (Joskow, 1998:2). Joskow underlines the risks of using infrastructure sectors to pursue a variety of social and political goals. He mentions the risks of corruption, poor performance and management, which siphoned off revenues and increased the costs (1998:2). These various issues led to a phase of deep structural reforms.

Hence, the process of reform in MENA countries did not result from pressures of the native entrepreneurs but corresponded to the fiscal crisis of the state reinforced by the pressure from the international community such as the IMF and World Bank and main lenders to embrace restructuring measures (Ayubi, 1995:313). Cook in particular mentions that while in some cases the changes toward industrial developments generated from within the governments themselves, by far the most prominent pressure had arisen externally through industrialised country governments and international agencies (1986:1). Several authors underline the fact that the rescue programmes of the IMF and World

Bank were in fact the only options available for developing countries at the time (Ayubi, 1995:313, George and Sabelli, 1994:220). Such measures were criticised as reflecting the interests of industrial states, such as the US, and lending agencies, including the IMF, World Bank and United States Agency for International Development (USAID), underlining the enforcement measures approximating coercion, from loans to military force (Harik, 1992:13, Richards et al., 2013:228, Pitcher, 2012). Such reforms did not reflect a cheerful experience and neither were they principally led by poor performance but due to fiscal and budgetary pressures of the states (El-Said and Harrigan, 2014, El-Ghonemy, 1998). They nonetheless represented a turning point for economies and institutions of the MENA region, which embraced the late 1990s and early 2000s as part of a neoliberal order led by international financial and economic such as the WTO.

The telecommunications sector represents again a case in point to illustrate the economic and governance changes in MENA countries following the 1980s and 1990s restructuring measures. The telecommunications underwent the experience of the neoliberal reforms, confirmed by the entry into force in 1998 of the WTO liberalisation agreement on Basic Telecommunications. The telecommunications sector increasingly evolved from a system based on state-led economy to a deregulated sector, marked by the creation of NRAs and the role of the international community (Simpson, 2008, Humphreys and Simpson, 2008). Hence this sector embodies adequately a move from a state-owned towards mostly privatised and deregulated sector, having gone through a variety of phases of centralisation, deterioration, adjustment and competition (Sharma and Lawrence, 2015). In most cases, it reflects a sector where the government, corporate and international interests intertwine, with only little mention and involvement of the citizens.

5.3 Background of the three country case studies

The above part outlined the key role of the state post-Independence until the turning point in the 1980s and 1990s. A broad bureaucracy aimed at fulfilling several key socioeconomic aims, such as employment. The role of the public sector as a source of employment is visible in the traditional route in MENA countries from graduate studies to positions as civil servants (Ayubi, 1988).

Another typical employer in MENA countries is the military. Rivlin underlines the role of the military in providing employment and military services and maintaining military-types of government, such as in Egypt (2013:22). He mentions that “[t]he large size of armies and security forces means that the state has an overwhelming monopoly of force, something that limits opposition to regimes in the Arab world” (2013:22). The role of the military, as an employment provider, but also a controlling faction involved within the government and policy-making is also key in these countries, and is characteristic of the telecommunications sector, due to its potential use to control and censor the population (Noam, 2010). The system based on large bureaucracies was gradually put under pressure, with an inefficient, costly and oversized government to finance. The fiscal and budgetary crisis of Arab States in the 1970s and 1980s and the consequent restructuring of MENA economies, under the Washington Consensus principles, have created difficult and sometimes traumatic transitions towards liberalisation and privatisation.

The focus of this section is on the turning point of the fiscal crisis in the 1970s until the end of 1990s, so to understand with more clarity the origins of the political and economic trends of the case countries in the 21st century. The 1980s brought key changes to the MENA region with drastic restructuring measures, observed in the implementation of rapid economic reform, liberalisation and transition (El-Said and Harrigan, 2014:100). This section firstly presents Egypt due to its key role as an economic and political leader in the Arab World. Secondly, the Jordanian case is presented due to its proximity with Egypt and the similar geostrategic context of both countries. Finally, Morocco’s case is given, representing a third scenario, slightly more detached from the geostrategic challenges of Egypt and Jordan, but nonetheless following similar trends.

5.3.1 Egypt

Egypt is one of the largest countries in terms of both population and economy. Despite being relatively poor, it has been an example of avant-gardist institutional trends, such as bureaucratic expansion, trade and liberalisation (Ghoneim, 2012). It has had a key role as a political and economic leader in the MENA area since Independence. Rivlin mentions that Egypt’s political influence

within the Arab world and in the Middle East as a whole has been considerable “[a]s a result, the economic policies that it follows are something of a weathervane for Arab countries” (2013:95). Egypt was a champion of the public sectors in the 1950s and 1960s. It also became the architect of the non-aligned movement, being the leader of a bloc of independent nations detached from both the North Atlantic Treaty Organization (NATO) and Warsaw Pact (Osman, 2011:59). The influence of Egypt in the area during the Cold War was extremely important, as Egypt championed the idea of a Grand Arab Nation.

However, the suffocating bureaucracy contributed to the failure of the project and led to a strategic re-orientation from the 1970s to the 2000s from the USSR to the US doctrine (Osman, 2011:77-9). This movement from the influence of socialism to the capitalist doctrine was observed and Egypt became a leading country in the Arab world experimenting with economic liberalisation and privatisation from the mid-1970s. However, Ayubi mentions that if it is true that Egypt was the first country in starting such reforms it was not the first one in implementing them and it took almost two full decades for the process of restructuring and privatisation to be achieved (1995:339). In fact, despite being a champion in initiating reforms and restructuring, the predominance of the state in Egyptian social, economic and political sectors has remained deeply marked (Rivlin, 2013:95). Ayubi mentions that “although domestic capital has welcomed the new policies, and while international capital has encouraged it, privatisation in Egypt is still basically a public policy pursued by the state for its own purposes” (1995:340). This shows a continued dominant role of the state, where privatisation has not necessarily involved a retreat from the government, but a reshaping of its influence.

Ayubi mentions that the implementation of structural reform remained very slow because of the government’s apprehension over the political risks of radical restructuring (1995:346). In fact, reforms of the 1970s were defeated by food riots in 1977. Rivlin argues that these riots have affected Egyptian policymaking ever since. He argues that “they made the government unwilling to take steps that would reduce the living standards of the poor, urban areas; and they made it impossible for the government to implement the reforms contained in the agreement” (Rivlin, 2001:101). Furthermore, in Egypt, former military and intelligence officers remained very close to the policies of the Infitah or “opening

up”, securing their role in the Egyptian state and economy (Marshall, 2015). The promise of the emergence of a new upper class of merchants remained empty, with the 1974’s opening up reforms enriching leading figures and political allies and friends, without improving the situation of the society (Osman, 2011:137). Rivlin mentions that Egypt’s economy paid a heavy price for maintaining the regime in power, specifying that “[c]lose links between favoured businesspeople, the military, senior military officers, and politicians, combined with a vast bureaucracy, provide a system of patronage while stifling much private initiative and political freedom” (Rivlin, 2013:117). In Egypt, the influence of the military in the government and the economy is still perceptible nowadays.

The gradual move away from the Soviet model to the US one did not take place without political turmoil in the MENA region. The process included securing peace with Israel, a highly contentious issue in the region. Following the 1978 Camp David agreement between Israel and Egypt, Gulf states stopped all concessional loans to Egypt in retaliation. These loans were taken over by Western Donors, deepening the changes in balance of power in the region (Rivlin, 2001:102, Ayubi, 1995:342). However, Egypt could not compensate completely its lack of foreign capital. From the 1980s, a large bureaucracy coupled with political instability of the region and Egypt’s division with the rest of the Arab World led to a crisis of fiscal and budgetary deficit (World Bank, 2004). The dependence on foreign capital was exacerbated with the 1990-1991 Gulf crisis. However, Egypt was unusually forgiven of debts, leading to a favourable atmosphere among the members of the political elite for accepting conditionality formula (Hinnebush, 1993). In exchange for massive debt relief, the government adopted a reasonably conventional stabilisation and structural adjustment package endorsed by the IMF (Richards et al., 2013:249). In 1999 more than USD 2 billion were written off, followed by more than USD 10million in 1990 (World Bank, 2015e). Rivlin mostly argues that these debt write-offs were political acts designed to reward Egypt for its support for Kuwait and Saudi Arabia following the Iraq invasion of Kuwait (2001:67-8). Egypt’s economy underwent drastic reforms with the hope to compensate high unemployment, fiscal and trade deficits.

Despite the planned reform, Egypt’s economy did not perform in the 1990s. The privatisation process did not follow a transparent path, as regime insiders did

extremely well, resembling nomenklatura privatisations of the former Soviet Union, where insiders closely connected to the state apparatus gathered most of the benefits (Loewe, 2013). Following the years of privatisation from the 1991 to 2004, Egypt engaged into technocratic reforms, with a new technocratic government put in place under President Mubarak to accelerate economic reforms. This produced a recovery of economic reforms and success, notably with the deflation of the Egyptian pound that increased exports in 2003 (World Bank, 2004). However the social contract of the state remained under pressure. Job creation lagged behind and failed to meet the rapidly rising number of young job seekers (World Bank, 2004). The 2000s, despite the economic restructuring and privatisation efforts undertaken by the government did not live up to their promise and left Egypt in a complex decade which would be marked by phases of political and economic turmoil and paralysis.

5.3.2 Jordan

Jordan may not be a champion in pioneering measures as is Egypt, but it is indeed a case in point regarding the role of the IMF and structural reforms in the country in the 1980s. Jordan is in many ways very different to Egypt. It is a small economy and it does not possess remarkable natural resources, except for phosphate and potash. Hence, Jordan's economy is built on a narrow productive base. It is heavily reliant on emigrant remittances and foreign aid (Alon, 2010). The role of the government since Jordan's independence has been quite extensive, even if subtle at times (Choucair, 2006). Ayubi mentions that "[i]n spite of adopting a formally 'open' and 'liberal' economic policy, the government's involvement in the Jordanian economy has been very substantial" (1995:367). Brand also mentions that Jordan has traditionally been viewed as a free-market economy, which did not follow the Arab-socialist or state-capitalist experiments of the 1950s and 1960s. However she underlines that it is inaccurate to think that the state only played a minor role (1992:170). The Jordanian industrial activity has been initiated by the government in several ways.

However in Jordan, the rationale has been very different from the one in Egypt. Jordan has had to embark later on than countries such as Egypt in a process of state-building. Hence, several state-led economic decisions have been taken in

this objective (Brand, 1992:168, Chatelus and Schemeil, 1984). Ayubi mentions that “[t]he Jordanian royal family has had to impart ‘substance’ to an otherwise artificial state that lacks any really distinct geographical or human base, by emphasising in particular the process of institution-building” (1995:367). This confirms the argument of Chatelus and Schemeil that embarking on an industrialisation programme in Jordan has been the result of a state-building process (1984). Jordan has since Independence had to juggle with small resources and a relatively heterogeneous population in a generally unstable area. Its political and economic development took a largely different path to that of Egypt.

Jordan has had an important role in an unstable region, characterised by political uncertainty and wars with international ramifications. All these aspects need to be taken into account to consider the evolution of the Jordanian state. In fact, the role of Jordan as a buffer state has impacted the country extensively. Jordan has a central location at the heart of the Middle East and has long been a key trading post between Asia and Europe (Vivekanand and Kollar, 1997:157). The regional political instability since the Second World War has deeply accentuated Jordan’s buffer state role in the eyes of the international community. Jordan’s role in the middle of the turmoil has been marked by the Israeli-Palestinian conflict which dramatically shaped Jordan’s future, including changes of territorial borders, and the large movements of refugees (Westrup and Al-Jaghoub, 2007:11, Ayubi, 1995:367). Balancing a process of state-building and a key role as a buffer state under close scrutiny of the international community has been a difficult exercise for Jordan. Rivlin mentions that “[m]anaging the economy, like managing Jordan’s foreign policy, has been a matter of tightrope walking” (2001:112). He adds that the country’s crucial geopolitical situation has enabled it to extract a form of rent from the international system, mainly in the form of economic and military aid from Western Europe, the US, and Japan (2001:113). The role of Jordan as a buffer state in the region has been paralleled to high levels of foreign aid and rents, accentuating its reliance on external sources of income, rather than developing its own capacity.

Jordan is often characterised as a rentier economy. Its economy is built on a narrow productive base, which renders it very vulnerable to economic and

political development in the Gulf, regionally and internationally. Jordan is particularly sensitive to foreign aid and as Wilson argues, Jordan has always been aware of the political role of aid. Wilson mentions that “U.S. aid has a political price in any case, a fact of which Jordan is well aware” (1988:326). Jordan’s dependency on foreign rent was put under pressure following the economic difficulties of Arab donors, including the 1978 oil recession (1988:326). The momentum of economic activity in the 1980s in Jordan was maintained by high levels of government expenditure, heavily financed by external and domestic borrowing, leading to net budget deficit (El-Said and Harrigan, 2009). The increasing debt burden of Jordan led it to call in the IMF and negotiate a structural adjustment programme in 1988, which resulted in a series of policies of privatisation, trade liberalisation and reduction of public debt. This caused unrest in parts of the country due to increasing prices (Westrup and Al-Jaghoub, 2007:11, Ryan, 1999:666, Brand, 1992:167). In this disruptive context, similarly to Egypt, several privatisation policies of joined private-public ownership were implemented to ensure political cohesion in Jordan.

In 2000, Jordan joined the WTO. The same year, a free trade agreement (FTA) was signed with the US. Similarly an agreement with the EU was signed in 2001. Several authors argue that by 2005 Jordan was regarded as an excellent example of how a country can develop using the assistance of the IMF (Westrup and Al-Jaghoub, 2007:12, El-Said and Harrigan, 2014, Piro, 1998). Jordan had made noticeable steps to adjust to international commitments by following the IMF and World Bank policies and by joining the WTO and entering into FTAs with both the EU and US. The changing economic orientations from the 2000s also coincided with a turning point in governing officials. The accession in power of King Abdullah II in February 1999 paved the way to a series of reforms with the priority of strengthening the economy, increase employment and reduce poverty (El-Said and Harrigan, 2009, Zakharova, 2004). The 1999s governing changes led the path for new generations of politicians focusing on competition and technologies to develop the country.

However, even if King Abdullah II pushed for reforms in a variety of sectors, opposition was strong against certain measures undermining the interests of groups close to the monarchy. The result has been a close government control

on the privatisation programs and the sale of public companies to strategic investors with close ties to the palace and often with a link to security establishments, similar to Egypt (Choucair, 2006). According to Rivlin, Jordan gradually intended to wean itself off reliance on economic rent. The reorientation of the economy has brought about a dramatic increase in exports, but despite large investments in education and welfare, the country still suffers with high unemployment rates, in particular among the young and better educated (2013:155). Jordan showed commitment to be part of the international community, it has followed structural adjustments quite thoroughly, but economic growth did not take place as expected and the state remains closely involved in the economy and society.

5.3.3 Morocco

Morocco is an interesting case to observe the expansion of the state-led economy on one side and the role of the international community in reforming Morocco's economy on the other (Boukhars, 2011). Morocco, as in other countries in the MENA area, has seen several challenges emerge in the post-war era, including a high urbanization rate, a high ratio of youth to total population and an increasing impoverishment of the population (Rousset, 1990, Storm, 2007). Layachi underlines that such issues were coupled with prolonged economic crisis domestically and internationally and with a political malaise well into the 1980s (1999:43-6). It ultimately led Morocco to engage with IMF-sponsored structural-adjustment program in 1983 (Jaidi, 1992). The Moroccan fiscal and budget crisis in the 1980s mirrors in several ways the cases of other MENA countries, and notably those of Jordan and Egypt.

Morocco's main resource is phosphate. It is the largest phosphate exporter in the world and possesses around three quarters of the world reserves (FAO, 2004). White argues that it is specifically Morocco's resource endowment, which facilitated a deferred economic adjustment until well into the 1980s (White, 2001:122). Morocco furthermore holds controls over rich fishing water, developed a sophisticated tourist industry and enjoys remittances from Moroccan migrants abroad. Morocco also relies heavily on agricultural exports. In 2012, food exports accounted for 17.2% of total exported goods (World Bank, 2015d). All these characteristics render Morocco a country highly vulnerable to

external shocks, as is Jordan. This is particularly the case regarding developments in Europe, Morocco's main trading partner¹⁹. In the 1970s however, several contextual difficulties accentuated Morocco's fiscal and budget deficit. These include the collapse of phosphate prices after 1976. The diminishing revenues from phosphates combined with expenditures due to the beginning of the Saharan War increased its fiscal and trade deficit.

Richards and Waterbury furthermore mention the unwillingness of Morocco to cancel investment projects and change its industrialisation policies because of political fears of decreasing public-sector salaries (2013:243). Layachi also mentions the burden of a decrease in Morocco's tourism industry, which was affected greatly by the instability in the region, the rise of militant Islam in North Africa (Layachi, 1999:46). The foreign debt inexorably rose to unmanageable heights. As foreign creditors refused to continue financing budgetary deficits, Morocco turned to lending bodies for assistance in 1983 (Doumou and El Malki, 1990). Morocco's debts and credits were rescheduled against the implementation of the IMF and World Bank's structural adjustment measures. The structural adjustments carried an important social cost with a decline in real wages, rise in unemployment, inflation, increase in urban migration and dangerous concentration of poor citizens in overgrown cities. Such worsening of conditions led to several riots in the 1980s and 1990s (Sater, 2007, Lofgren, 2000). Layachi mentions that one of the main impacts of the 1980s restructuring measures, however, was the change in the people's perceptions of the role of state, as the public institutions increasingly retreated from public services (1999:48). This underlines the diminishing role of the state in the Moroccan economy and social services as a consequence of the implementation of traumatic adjustment measures.

Morocco has shown on the international level, a notable commitment to implement the Washington Consensus measures, albeit with limited outcome, similarly to Jordan. Richards et al. mention that "Morocco provides a striking

¹⁹ The EU-28 is the main partner for Morocco in trade in goods. In 2014, imports from the EU-28 countries accounted for 51% of total trade. In 2014, export to the EU-28 accounted for a total of 63.4% (EUROSTAT. 2015c. *European Union, Trade in goods with Morocco* [Online]. Available: http://trade.ec.europa.eu/doclib/docs/2006/september/tradoc_113421.pdf [Accessed Nov 23 2015].)

case of a country successfully overcoming political obstacles to reform, systematically implementing a wide array of Washington Consensus policies- and then having very little in the way of growth or employment creation to show for it” (2013:243). Despite a slow path of privatisation, Morocco’s economic reforms were praised by international institutions and European partners (Cammett, 2007). Morocco notably took the choice to come closer to the EU. Ayubi underlines that Morocco has been traditionally driven by mimicking the French model, with the result that even its administrative categories and terminology are closer to the French ones, than the ones prevalent in the Arab East (Ayubi, 1995:304). However, this choice to come closer to the EU has made Morocco vulnerable to economic and political shifts in the neighbourhood. Richards et al. argue that Moroccan government and policy-makers have gambled on integration with Europe, even while Europeans becoming decidedly wary of any closer economic ties with any Muslim country (2013:246). The close relationship with the EU is still perceptible nowadays with the signing of the advanced cooperation status in 2008.

The influence of the state diminished in Morocco after adjustment measures started in 1983. The state slowly reduced its participation in all economic sectors of society and engaged in privatisation programs (Malka and Alterman, 2006:53). The government continued these measures well into the 1990s and pursued export-oriented trade with Europe by abolishing many price controls, reforming the capital market, and shifting agricultural incentives (White, 2001:133). However, as mentions Layachi, this did not indicate that the late King Hassan and powerful state apparatus were willing to share power with an increasingly independent-minded parliament (1999:50). In fact, Richards et al. mention that privatisation has often been politically connected, enhancing market shares of the owners and weakening domestic competition (2013:246). As in Egypt, business and government elites have often been the primary beneficiaries of the economic reforms. This is the case, for example of domestic conglomerates, such as the Omnium Nord-Africain (ONA)²⁰, which is owned

²⁰ ONA was dissolved in 2010 and is now part of the Moroccan National Investment Company (SNI). They own 69% of INWI, the third Moroccan mobile operator (WORLD BANK. 2014a. *Broadband Networks in the Middle East and North Africa: Accelerating high-Speed Internet*

partially by the Royal Family (Abdellatif, 2014). In Morocco as well, privatisation and liberalisation measures have been closely managed by the state and its government apparatus.

In 1998, the appointment of the Prime Minister Abderrahmane Youssoufi and succession of King Hassan following his death, of his son Mohamed VI have nonetheless brought a new dimension to the central role of the state in Morocco. The technocratic government in power has supported an additional focus on privatisation and the sale of government assets since the 2000s (Richards et al., 2013:246). This is similar to Jordan, which experienced similar changes of government in the late 1990s. However, according to Rivlin, the new King did not relinquish the extensive power accumulated by his predecessor, even though a wider circle of people have been consulted and increased freedom of debate in the press and other forums has been given (2013:190). Thus, the elite remains concerned with economic development rather than political change and the monarchy stays central in all significant decision-making.

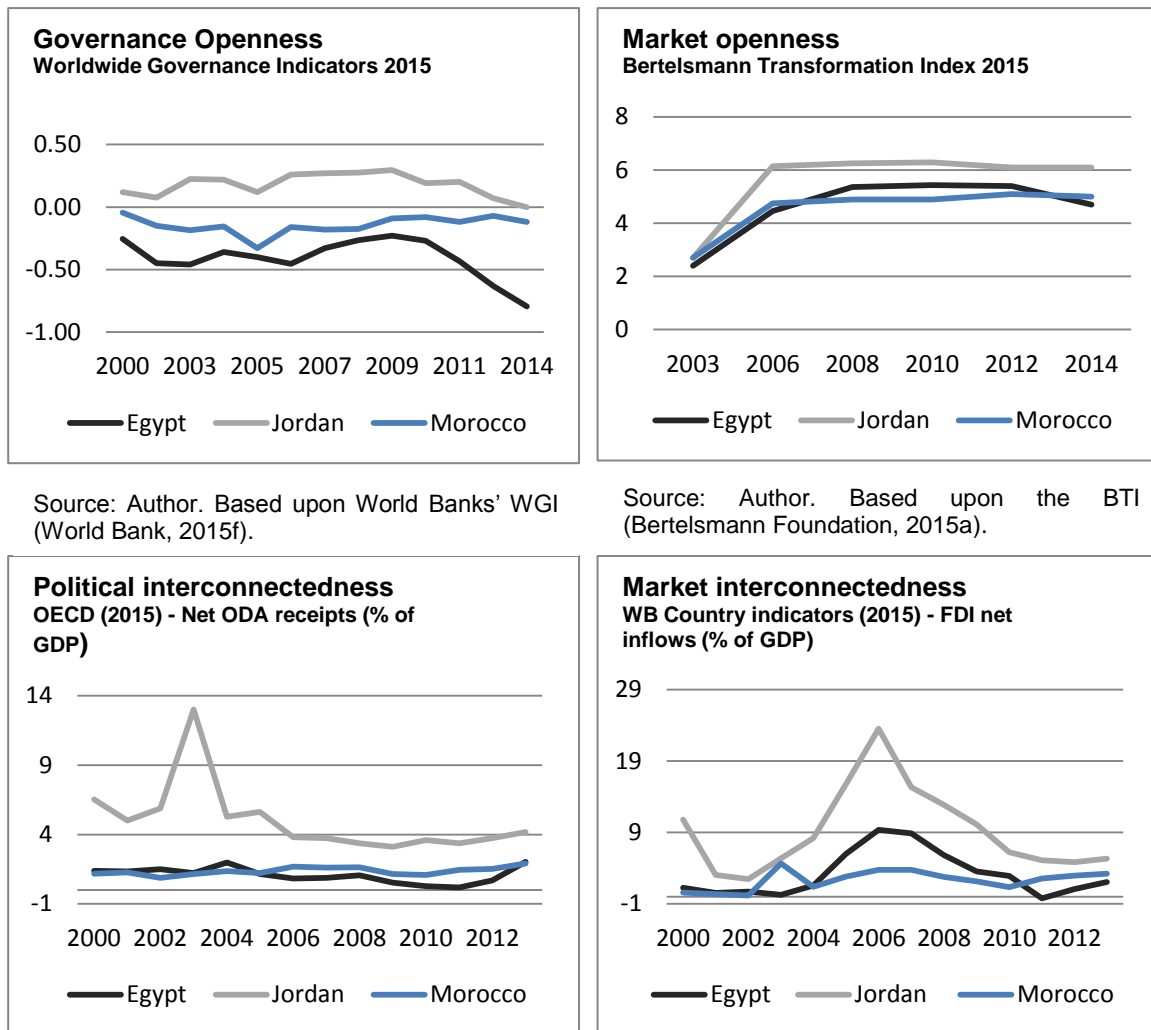
5.4 State variables analysis & discussion

The contextualisation of the MENA countries and the turning point of the structural measures of the 1980s and 1990s support the understanding of contemporary state-economy relationship in Egypt, Morocco and Jordan. Overcoming economic restructuring measures of the 1980s and 1990s, MENA countries in the early 2000s, share similar challenges in both economic and political sectors. With an intense demographic growth, and a large young population of reproductive age, MENA countries have an enormous potential as a work force (World Bank, 2015a). However, high levels of unemployment and low economic growth rates have created pressure on the population and the government. Rivlin mentions that “[a]lthough the population of working age has grown, so has the size of the dependent population and as a result the pressure for public sector spending on social services such as education, health, and

welfare has increased, often beyond the financial abilities of governments” (2013:7). Starting the analysis from the 2000s, this section discusses the premise that the four selected states’ variables—governance and market openness and political and market interconnectedness—show the level of vulnerability to external actors and thus define under which conditions does policy diffusion take place. This answers the first subquestion of this research, under which conditions do countries engage in policy adoption.

The previous chapter concluded that in Morocco and Jordan, the adoption of management ideas in USO and spectrum frequency was clearer than was the case in Egypt (Sections 4.3 and 4.4). The chapter concluded that due to the notable difference of both Egyptian cases compared to the Jordanian and Moroccan cases, a country level divergence must be influencing the results. This observation is discussed in this section in the light of the four state variables. Figure 7 shows the four graphs representing the results of the variable measurement for the three country case studies. The detailed measurement is given in the methodological chapter of this thesis (Section 3.3). The four graphs are presented jointly so to display a better visual understanding of the dynamics at play across the three countries and across the four variables. All graphs are set in the post-economic restructuring context of the early 2000s. They take their origins from the above contextualisation.

Figure 7 State variables' comparison in Morocco, Jordan and Egypt



Source: Author. Based upon World Banks' WGI (World Bank, 2015f).

Source: Author. Based upon the BTI (Bertelsmann Foundation, 2015a).

Source: Author. Based upon Aid Disbursements (OECD, 2015).

Source: Author. Based upon World Bank statistics (World Bank. 2015a).

The first observation of these four graphs is that Jordan scores constantly higher than Egypt and Morocco. In all four indicators, governance openness, market openness, political interconnectedness and market interconnectedness, the higher levels in Jordan are straightforward. As Jordan is one of the countries, where policy diffusion is the more readily observable, together with Morocco, this basically fits with the hypothesis stating that the higher the level of the four variables, the higher the level of policy adoption is to be expected. This shows that Jordan presents higher rates of vulnerability to external actors than both Egypt and Morocco.

As discussed in the previous sections, this higher level of vulnerability of Jordan can be explained by different factors. From a historical and geographical

perspective, the role of Jordan as a buffer state has impacted the country extensively. Set in a region characterised by political instability, the state has been under close scrutiny from the international community. Jordan has been a recipient of foreign aid for decades. This explains the great difference in the political interconnectedness results compared to Egypt and Morocco. From an economic perspective, Jordan is a rentier economy, in a more comprehensive and classical form than Morocco and Egypt. This is intertwined with both political and market interconnectedness, as rentier economies are categorised with higher degrees of vulnerability to foreign influence. In Jordan, two main sources of income are linked to foreign origins, notably the reliance on workers' remittances from expatriated labour forces and the reliance on foreign aid. In both Egypt and Morocco, rentier features emanate from the revenues of natural resources; phosphate in Morocco and oil in Egypt. These sources of income are not directly reflected in the above graphs as are foreign aid and FDI. As a result, it seems logical that Jordan scores significantly higher in the above graphs.

The second observation is that for all four variables, Egypt scores the lowest. However, the results are not always very distinguishable from the Moroccan ones. In one case, for the political interconnectedness variable, the difference with Morocco only becomes apparent post-2005. In two other cases, Morocco scores lower. This is the case between 2007 and 2012 for the market openness variable and between 2004 and 2010 for economic interconnectedness. Egypt scores particularly low concerning the governance openness variable. This can be explained by different factors. As was observed earlier, the Egyptian state traditionally keeps a strong hold on both the government and the economy. The military in Egypt is very close to the power and it can be argued, whether in the case of Egypt, the military is not in fact the power in charge. Having a military government however, is not an absolute condition to say that governance openness cannot take place (Liu and Jayakar, 2016). In the case of Egypt, several avant-gardist policies were adopted despite having a low level of governance openness. This is also currently the case with the ongoing implementation of the unified license in the telecommunications sector (Section 4.3.3).

A low level of governance openness is nonetheless an indicator of concentration of power under traditional forms of centralised governance, where delegation and deregulation may not take place as easily. Furthermore, Egypt is also a much larger country than Jordan and has had a different development process due to its influence in the Arab world and in the international realm. It has one of the largest economies in the region and it still holds a considerable political influence within the Arab world and in the Middle East. As such, the Egyptian “project” has been different from the Jordanian and the Moroccan ones, with the government more closely involved in the development of the economy and society than in Morocco and Jordan. Finally, it was observed in Chapter 4 that Egypt did not adopt policies as distinctly as in Morocco and Jordan. While the variation in results between Egypt and Jordan is illustrated in the graphs as expected, it is not the case with Morocco, except for the governance openness variable. This suggests that the variable of governance openness offers an interesting nuanced explanation regarding which conditions lead to policy adoption.

The third observation is that the results concerning Morocco are mixed. Contrasting with the explicit results of Jordan, Morocco scores similarly and sometimes lower than Egypt. This is not confirming the hypothesis that higher levels of all four variables show higher probability of policy adoption. Since Morocco has been regularly and frequently adopting policies that have been originating elsewhere, it is surprising that it scores similar to and sometimes lower than Egypt in the other three variables, market openness and political and market interconnectedness. Morocco is a sophisticated country with a proactive government in the field of telecommunications. Chapter 4 concluded that Morocco develops its policies with full expertise and knowledge of the subject. This is interesting as it confirms, as with the case of Egypt, that governance openness is a key indicator to show the conditions under which policy diffusion may take place. Political interconnectedness shows mixed results in the case of Morocco and Egypt, with a distinction occurring between both countries, however, only since 2005. Market indicators, as in market openness and market interconnectedness, also show mixed results to observe conditions under which countries may adopt policies that originated elsewhere, suggesting that market indicators are less revealing than governance openness in this context.

These three observations frame the overall comparative results. The Jordanian case confirms the hypothesis (H₁ High) that higher levels of the four variables lead to higher levels of policy diffusion. The Egyptian case confirmed the hypothesis (H₂ Low) that lower levels of all four variables show lower levels of policy adoption. Both conclusions illustrate the observations of Chapter 4. The Moroccan case, however, does not evidently confirm the hypothesis. Based on the observations of Chapter 4, it appears that Morocco shall have scored constantly higher as did Jordan. However, in several instances, Morocco scores lower than Egypt. These results suggest that one variable, governance openness, is more adequate to discuss conditions under which countries adopt policies that have originated elsewhere. Market openness, political and market interconnectedness provide mixed results, which need to be assessed carefully. The next subsection reviews each of the variables in detail to account for the fine-grained differences. Each variable is analysed in the light of the regional and country cases contexts described in the earlier sections. Commentaries regarding validity and limitations are also proposed for each variable in the corresponding sections.

5.4.1 Governance openness

Governance openness is defined as the degree to which a country takes into account the rule of law and the work of regulatory authorities. It is measured in terms of effective regulatory governance, based on both the governance and regulatory effectiveness of a country. The measurement of this variable is based on the aggregation of two of the Worldwide Governance Indicators, the government effectiveness index and the Regulatory Quality measure. The Government Effectiveness index captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies (Kaufmann et al., 2010:4). The second measure, the Regulatory Quality index captures the perceptions of the government's ability to formulate and implement sound policies and regulations that permit and promote private sector development (Kaufmann et al., 2010:4). This variable is directly linked to the functioning of the government and regulatory governance in particular. It is argued that the

higher the level of regulatory openness, the higher the level of vulnerability of a state to external influence, leading to a higher potential to adopt policies originating externally. On the contrary, the more a government is centralised and controlling, the less it is likely to look abroad for inspiration. In such cases, the government implements policies that keep regulation under a domestically oriented strategy.

The first section of this chapter argues that in the MENA countries governance openness must be understood in the context of an expanding bureaucracy. This expansion has taken place at the independence of MENA countries and has been rooted in a variety of factors, such as a historically centralised governance accentuated by colonial legacy, a weak business class and expansion of the higher education, with a direct link to the public office (Ayubi, 1988). In the case of Jordan, the expansion of the bureaucracy has paralleled a need for state-building (Chatelus and Schemeil, 1984). In MENA countries, the level of governance openness is low. In fact, for both Egypt and Morocco, the index is mostly negative. This is linked to the contextual historical, political and regulatory developments expressed earlier.

The three country-case studies present similar types of governance openness. A wide bureaucracy, a centralised power and the close presence of the military in decision-making are found in each country. The centralised power in the three country-case studies is an important feature of governance openness. In such cases, the power is centralised in only a few key figures. Both Morocco and Jordan are kingdoms and even if both countries have engaged with parliamentary systems, the role of the Kings, King Mohamed VI in Morocco and King Abdullah II in Jordan, remains prominent. In Egypt, the government is not a kingdom, but the relationship between the military and the political sphere is clearer than in many other countries of the MENA region. In fact, the role of the military power is wide in all three countries of this research, but in Egypt, the direct link between high level political and military figures cannot be disguised. The actual President Abdel Fattah el-Sisi is a former military chief, as have been several other Presidents before him, including Hosni Mubarak, who was overthrown in 2011. Large bureaucratic administrations, with prominent influence of the state and military apparatus explain why governance openness ratings of all three countries are relatively low.

Nevertheless, there is an unambiguous difference between the scores for Jordan, Egypt and Morocco. The dramatically different results of Jordan and Egypt are not surprising. Jordan has undertaken to restructure the economy and governance of the country seriously. Egypt has shown a much more intense hold of the power in the hands of the political and military elite. The results of Morocco are higher than Egypt, as expected, as well as in the case of Jordan, as both were considered as best practice examples for the implementation of regulatory practices and benchmarks. Nonetheless, it is interesting to notice that the results between 2000 and 2014 have as a whole not been positive and in 2014 we observe even lower levels than was the case in 2000. This can be explained by the deteriorating political and governmental context, where several citizens' riots have been dealt with by state control, notably in Egypt. The 2011 Arab uprisings in Egypt are a case in point with the return in power of more controlled and centralised governing methods of the state. In the case of Egypt, the decreasing transparency and openness of the government are visible since the 2010. This was underlined in the interviews in Egypt, as an expert from Vodafone reported at different instances in the interview that if anything may have happened regulatory-wise in Egypt, this would have been the case pre-2011, as after that nothing could progress anymore due to the uncertainty of what would happen next at the political level (Expert EG5, 2014). This shows a difficult context in Egypt to implement policy innovations.

The governance openness variable sheds interesting lights on the development of the bureaucracy in MENA countries towards more efficient regulatory and government processes. Several measures encompassed in the WGI show a process based on the quality of public and civil services and the competence of the government to formulate and implement sound policies and regulations. This is key to this thesis on policy diffusion, as policy diffusion is likely to be more present in efficient regulatory institutions aimed at enhanced regulatory practices based on worldwide best-practice sharing. Furthermore, the data dates from 2000, which is very useful to observe the development of the index in the complete timespan from 2000 to 2014.

However, one of the main limitations of this variable is that its scope for analysis is incomplete. For instance, having a better regulatory and governance system

may suggest that policy diffusion is likely to take place more regularly. It is however possible that policy adoption also takes place in a controlled environment, if the government decides that there is sufficient interest behind the adoption of a new legislation. A second limitation to this indicator is the ambiguity between adoption and implementation. An adopted policy does not mean that it will be implemented in any case. Freyburg et al. suggest that a “successful rule adoption does not necessarily lead to rule application” (2009:916). Hughes et al. also mention the need to distinguish between the transposition of external policies into domestic law and the actual implementation of the policy, which requires tracking over time (2005:11). Hence, the openness of government's variable shows a higher or lower likelihood to adopt policies which have been adopted elsewhere. It does not mean however, that policy adoption will only take place in countries that score higher. It also does not mean that an adopted policy will be implemented in any case. Nevertheless, it remains a key variable that highlights the central role of governments in MENA countries in deciding whether to adopt policies originating from elsewhere.

5.4.2 Market openness

Market openness is defined as the reliance on national and international market forces to regulate the economy. It takes into account the role of the private and public corporate sectors and general economic interests leading to regulatory changes. It is measured by the “Economic Transformation” figure provided by the “Status” part of the Bertelsmann Foundation Transformation index. The variables included in the economic transformation index take into account the level of socioeconomic development, organisation of the market and competition, currency and price stability, private property, welfare regime, economic performance and sustainability. These indicators are very comprehensive and elaborate on a wide array of market indicators, which is useful to capture the essence of market openness in this thesis. This variable is based on the idea, similar to the one regarding governance openness, that the higher the level of market openness of a country, the higher the likelihood that a government will be looking abroad to get regulatory inspiration. This would mean that the country is vulnerable to market developments abroad and needs

to take them into account to adapt regulation. On the contrary, the lower the level of market openness of a country is, the lower the likelihood is that it will be looking abroad for inspiration. A country, whose market is self-sufficient, does not need to take into account the economic developments abroad.

The first section of this chapter argues that in MENA countries, this variable needs to be understood in terms of the post-independence state-led economy. In this context, the rise of the “patron state”, where the state both embraces the role of the business entrepreneur and provider at the same time was observed (Harik, 1992:1-2). In such a context, the rise of the bureaucracy has been paralleled with a rise of the state as a business entrepreneur. This according to Harik was maintained by mass mobilisation and bureaucratic regulation (1992:1-2). However, this experience of a state-led economy brought several inefficiencies and ultimately led to unbearable fiscal and budgetary crisis. Ultimately the system proved insufficient to provide for the welfare regime, labour provision and domestic economic growth and led to a restructuring of the market following the Washington Consensus principles of austerity measures and structural adjustment. In such cases, the liberalisation of the market was a priority, based on measures of privatisation and deregulation. This reflected a change of regime based on sometimes traumatic transformations, led by foreign institutions such as the IMF and World Bank and foreign lenders, such as the US and the EU.

The three country case studies present similar timelines in what concerns bureaucratic expansion, state-led economies and ultimately fiscal and budgetary crises. The 1980s and 1990s saw all three countries turning to international lenders such as the IMF and World Bank and engaging in restructuring measures. In this context of fiscal and budgetary crises, the three countries of this research have undergone dramatic transformations. Morocco engaged with the IMF in 1983, Jordan followed in 1989 and finally Egypt engaged with adjustment measures in 1991. What is striking regarding these measures is that even in countries, which implemented them seriously, such as Morocco and Jordan, the growth did not follow. Several authors criticise the measures of the Washington Consensus as being a trend followed by the main lenders at the time, providing no choice to the countries suffering the crisis and instead imposing even more disruptive measures on the society as a whole.

Easterly argues that the liberalisation, marketisation principle of the 1980s failed to accelerate growth between 1980s and 2000s representing two lost decades for growth (2001). In the three countries, these measures nonetheless launched some degree of privatisation and a diminishing role of the state in the economy. This shift was observable in the context of the telecommunications sector with the sale of government shares to private businesses in the late 1990s and beginning of the 2000s. This is detailed in next chapter (Section 6.2, Framework Proposition 1).

The results of market openness of Egypt, Morocco and Jordan follow a similar trend. Starting with relatively lower results in 2003, the index experienced an increase in all three countries from 2003 to 2006. This can be understood in the continuation of liberalisation and market measures that Egypt, Morocco and Jordan have under taken following the restructuring of their economies in the late 1990s. The rise is particularly apparent for Jordan, who has been a champion in privatisation and liberalisation measures since the 1990s. The 2006 Bertelsmann transformation country reports underline the successful period between 2003 and 2006 in all three countries, which enjoyed the fruitful outcome of implementing technocratic measures in Egypt, further integrating into the worldwide economy for Jordan and enjoying profitable rainfall in Morocco, pushing the agriculture to its best in several years (Bertelsmann Foundation, 2006c, Bertelsmann Foundation, 2006a, Bertelsmann Foundation, 2006b). After 2006, however, the results stagnated and reached similar levels in 2012 or even lower levels in the case of Egypt. Difficult weather conditions, such as draught in Morocco, slowed growth (Bertelsmann Foundation, 2014). More generally however, the three countries suffered from their conjectural difficulties, including a heavy role of the government in the economy, nepotism, unemployment, small space for individual innovation coupled with difficult political and security contexts, challenging foreign sources of income such as tourism and FDI (Bertelsmann Foundation, 2015a). This situation accentuated in the late 2000s.

The 2011 political upheavals in the region have led to serious political, social and economic disruptions. In the case of Egypt, the overthrown government brought additional challenges to an already struggling economy (Bertelsmann Foundation, 2015b). However, as a whole, in the market openness graph, as in

the one regarding governance openness, the higher results of Jordan are straightforward. As mentioned earlier, this can be explained by the focus on Jordan on privatisation measures since the 1990s and its decisions to commit to the worldwide economy's requirements. This variable however gives a mixed picture concerning the results of Morocco and Egypt. Morocco was expected to score higher than Egypt, and similar to Jordan, however, this is not the case. The unanticipated results of Morocco lead to questions regarding the relative significance of the four variables. It indicates that to analyse the conditions under which a country is more likely to adopt policies that have originated elsewhere, the variable on market openness carries less explanatory potential than the one on governance openness.

Nevertheless, the market openness variable is interesting to consider. It illustrates the development processes of developing countries towards market systems and shows the main economic powers involved in the region, in terms of foreign aid, political influence and trade, such as the US and the EU. Nabli and Véگانзонès-Varoudakis remind that delays and failures in implementing economic reforms are amongst the most common constraints in the MENA economies. This explains why the variable is generally low (2007). The variety of indicators included in the Bertelsmann Foundation Transformation index however is appropriate when accounting for the multi-level aspects of market openness, even if the starting date of the available data in 2003, does not account for the market openness developments of the three first years of the millennium, as do the other three variables.

It can be observed from the four graphs of Figure 7 that the market openness variable is closely linked to the one of market interconnectedness, focusing on FDI. In fact, the curve of both variables is expected to be similar. This can be explained as the more a market will be liberalised and open, the more FDI will be able to flow freely in the country itself. The graphs effectively show a rise in both market openness and market interconnectedness between 2003 and 2006 with a sharp decline after that for the market interconnectedness variable, which corresponds to a flattened curve for the market openness one. In both graphs nevertheless, the Jordanian scores are noticeably higher than the intertwined ones of Morocco and Egypt. Two conclusions from the links between market openness and market interconnectedness are drawn. Firstly, both market

openness and interconnectedness graphs show similar trends, even if they depict different information, justifying their joint use. Secondly, despite the fact that Morocco has adopted policies more readily than Egypt, as concluded in Chapter 4, the intertwined results of Egypt and Morocco in Figure 7 suggest that the variable of market openness brings less clear-cut explanatory potential as does governance openness.

5.4.3 Political interconnectedness

Political interconnectedness is defined as the interconnections for political reasons between two countries. It is here connected to the issue of giving and receiving foreign aid. It is based on the premise that the more an adopting country is relying on external countries for political reasons, the more it will have to pay attention to the policy developments taking place abroad. The variable of political interconnectedness is measured by the levels of foreign aid received in a country in relation to its GDP. The foreign aid data originates from the OECD statistical database (OECD, 2015). The GDP values originate from the World Bank 2014 Country indicators (World Bank, 2014b). This is based on the premise that foreign aid carries a political cost. For instance, in the context of telecommunications, Rodine-Hardy argues that it is probable that a country's debt service affects its probability of liberal telecommunication reform. She argues that a country with a higher debt service, is more likely to establish certain regulatory changes (2013:24-5). The reasoning behind political interconnectedness is similar to that of governance and market openness. Higher levels of political interconnectedness represent higher vulnerability to decisions taken abroad. As such, higher degrees of this variable are linked to a higher probability of adopting a policy that originated elsewhere. On the contrary, lower degrees of this variable are linked to lower probably of adopting a policy that originated elsewhere.

The first section of this chapter shows that in MENA countries, political interconnectedness has a special meaning. Several countries of the MENA present characteristics of rentier states and rentier economies. Rentier states typically base their revenues on the export of oil. This is the case for example of countries of the Arab Gulf. However, a rentier economy needs not be based on oil revenues uniquely. In such cases, a country is also dependent on external

sources of income, but not directly related to the sale of oil. This is the case of workers' remittances and loans and grants from abroad. Rivlin argues that such economies have characterised the economies of the poorer countries in the region, such as Jordan, but also Egypt and Morocco (2001:45-8). The main issue with such sources of income is that they are highly dependent on economic and political conditions abroad, which generally relates to the idea of vulnerability presented in this thesis and more specifically to the concept of interconnectedness.

All three country case studies present characteristics of rentier economies. Jordan is however the most classical form. It is heavily dependent upon unrequited transfers in the form of expatriate worker remittances and economic aid. Anani and Khalaf argue that Jordan is most closely related to a "non-oil-producing oil economy" (1989:211). This shows the dependency of Jordan on economic and political developments in the Gulf, both through the remittances of Jordanian workers based in Gulf countries and the foreign aid received from these countries. In addition, Rivlin argues that debt write offs are also part of the characteristics of rentier economies (2001:68). All three countries of this research have experienced such debt write-offs between 1990 and 1995²¹. Egypt also presents characteristics of rentier economies. Osman underlines five key sources of foreign capital in Egypt: oil revenues, the Suez Canal dues, remittances of Egyptians abroad, tourism and foreign aid, all of which do not originate from the country's own productivity (2011:140). Morocco finally is one of the main producers of phosphate in the world (FAO, 2004). This is also a source of revenues which do not originate from domestic production activities, but is more closely related to rentier states, than economies. All three countries present certain characteristics of rentier states and economies, this shows that all three are vulnerable to developments abroad. For instance, all three

²¹ Jordan experienced around USD 300 to 500 million debt reductions every year between 1992 and 1995. Morocco experienced USD 2.9 billion write-off in 1991. Finally, Egypt experienced more than USD 2 billion debt write-off in 1999, followed by more than USD 10million in 1990 (WORLD BANK. 2015e. *International Debt Statistics* [Online]. Available: <http://data.worldbank.org/news/International-Debt-Statistics-2015-now-available> [Accessed Nov 23 2015].)

countries have experienced massive economic disturbances following disrupting oil prices and political conflicts in the Gulf.

The scores of Egypt, Jordan and Morocco in political interconnectedness are not surprising and they follow the conclusions drawn from the two previous variables, governance and market openness. Jordan is the main recipient of aid compared to both Morocco and Egypt. This is logical considering its rentier economy characteristics and its role as a buffer state in a politically unstable region. It experienced a peak in foreign aid in 2003. Morocco's level of political interconnectedness is situated between that of Jordan and Egypt. Until 2005, the results of Egypt and Morocco are intertwined, after that Morocco scores slightly higher than Egypt. The fact that Morocco situates in the middle of both countries in terms of international community's involvement and reliance on foreign aid is logical. Egypt for instance receives proportionally less foreign aid compared to both other countries. This is notably due to the size of Egypt and the weight of its economy, which is heavier than both Morocco and Jordan. In that sense, Egypt does not rely on foreign aid as much as the other two countries do. The level of political interconnectedness in Egypt was closer to null in 2010 and rose again after 2011. Changes in political interconnectedness trends can be explained by the political upheavals in the MENA region and the hesitations of main lenders to provide foreign aid as long as democratic standards are not re-established, notably regarding fair and ethical elections in Egypt (Heydemann, 2014). The results of this variable are inspiring as they illustrate contextual changes in the MENA region.

The political interconnectedness as a variable is interesting when applied in the MENA region as it echoes a particular rentier context, with economies that are vulnerable to political and economic developments abroad. This variable however is limited in its scope for two main reasons. Firstly, it does not reflect the rentier economies completely, as the variable only focuses on foreign aid and no other sources of rents, such as worker remittances or debt write-offs, which are essential to get a comprehensive picture of rentier economies, particularly in Jordan. Secondly, this variable does not show any of the political consequences of foreign aid. There exists a large debate on the impact of foreign aid in Arab countries and the role that it can have, for example as a levy or a weapon to achieve political and economic aims of the donors. In such

cases, foreign aid can become coercive (Richards et al., 2013:230). Foreign aid carries a political cost, which is included in this variable, intending to describe the vulnerability to external actors, including the political consequence of depending largely on foreign aid. However, there is no explicit nuance regarding the different consequences of this vulnerability. To analyse the fine-grained political consequences of foreign aid for each country, additional qualitative analysis is necessary.

5.4.4 Market interconnectedness

Market interconnectedness is defined as the degree of international trade interdependence between two countries, in particular in terms of the role of the private sector and specifically the role of FDI in the economy of the adopting country. The role of foreign investors is central for a country's domestic development. This is particularly true for industries that require large amounts of investment such as telecommunications. This variable is measured using levels of FDI from 2000 to 2013 of the World Bank databank compared to the GDP of each country (World Bank, 2014b). In the literature the consequence of different levels of FDI is not always coherent. For instance, Rodine-Hardy argues that the effect of FDI pressure is mixed (2013:67). She mentions that it is unclear if a country with low levels of FDI will reform its sector to boost these levels and if higher levels of FDI shall lead to a policy status quo to profit from the situation as it is. She concludes that either way, a relationship between FDI and the timing of reform adoption exists (2013:67). In this thesis, the argument behind the use of this variable is similar to the other three variables. It refers to the degree of vulnerability of a country to external developments. As such, this thesis argues that the higher the level of market interconnectedness of a country, the higher the likelihood that this country is going to adopt a policy that originated elsewhere. On the contrary, the lower the level of market interconnectedness, the lower the likelihood that a country is going to adopt a policy that originated elsewhere.

The first section of this chapter shows the link in MENA countries between market openness and market interconnectedness and the major structural adjustments that took place from the 1980s and 1990s. While such measures have not brought the expected growth in countries that implemented them, they

have led to radical changes in a number of sectors. During these adjustment reforms, measures were taken to revive growth and adopt measures, including the liberalisation and privatisation of the economy (Richards et al., 2013:228). These measures mostly impacted the quality of the market structure, however, the role of FDI and the private sector emerged in parallel. Rivlin underlines the important changes that the 1990s restructuring brought to the MENA economies. He mentions the increasing role of the private sector as a supplier of finance and the growth in private-sector capital flows to developing countries (2001:68). The role of the private sector and cross-national flows relate adequately to the concept of vulnerability to external influence.

All three country case studies have seen the emergence of the private sector and the growth of FDI following restructuring measures of the 1980s and 1990s. Even if the promised levels of economic development following the adjustment measures did not take place as expected, a certain level of restructuring took place in Egypt, Jordan and Morocco. However, it is important to recall the still heavy hand of the government in principal enterprises and the characteristics of patronage that define most MENA countries. Furthermore, the large role of the army and army-related spending remains an obstacle to privatisation and ownership. Rivlin underlines that very large military budgets and the involvement in conflicts in the region have impeded successful development of the private sector in the long run (2013:27). These different reasons explain why FDI in MENA countries were relatively low in the early 2000s, but increased until the 2006 after successful technocratic measures implemented in the MENA region, before declining again afterwards.

The scores of Egypt, Jordan and Morocco in market interconnectedness follow the patterns observed with the previous three variables. Once again, the levels of market interconnectedness of Jordan are sensibly higher than those of both Egypt and Morocco. This is related to previous arguments regarding the championing role of Jordan in supporting privatisation measures and FDI. As expected as well, the levels of Egypt are lower than that of Jordan. They are however higher than Morocco between 2004 and 2010. The scores of market interconnectedness in Morocco are again less visible than expected. This mirrors the results of market openness and partially, that of political interconnectedness. The second market related variable is similarly not

straightforward enough so to explain conditions under which policy adoption is likely to occur. Even if the country experienced a rise in FDI in 2006, it did not attract as many FDI as did both Egypt and Jordan. As observed earlier, the results of market interconnectedness follow a similar trend to those of market openness. A rise of FDI until 2006 is observed which is also characterised by a rise of market openness in the three countries until 2006. After that date however, the market openness variables flattens and the FDI declined. Both variables show different aspects of MENA economies, however, they behave similarly.

The market interconnectedness variable is interesting when considering a trade approach to the vulnerability of countries to external actors. It was observed that this variable was close to the variable of market openness. However, the information given by both variables are not completely similar. While the variable on market openness refers to an index including a variety of factors depicting the market structure of a country, the variable on market interconnectedness presents developments trade, and notably in FDIs. Both are automatically linked to each other, but they complete the understanding of market and trade vulnerability in adopting countries. It is in fact, difficult to discuss the variable of market interconnectedness in total separation from the other three variables. This variable is undeniably connected to the evolution of all other three variables. The development of governance, the styles of market economy and political interconnectedness, particularly considering the political economy features of rentier economies, have an impact on the level, types and quality of market interconnectedness. This shows that in practice it is impossible to completely consider each variable as separated from the other.

One of the main limitations of this variable is however, its limited measurement scope. Similarly to the variable of political interconnectedness, the choice of measurement is limited to one aspect of market interconnectedness, the FDI. A more precise description of flows to the Arab World would be needed to understand comprehensively financial movements in the region. As such, a focus on FDI uniquely seems an imperfect measure to grasp the full complexity of market interconnectedness and the role of multinational companies and private actors in the domestic economies of the three selected cases. A focus

on FDI remains however, essential to understand the importance of flows across regions and to depict vulnerability to external actors more completely.

5.5 Conclusion

This chapter answered the first research subquestion: under which conditions does a state adopt a policy that originated externally. The chapter was divided into three sections to contextualise and discuss the four state variables. The first section contextualised the MENA region until the 1980s and 1990s. In doing so, it developed four lines of enquiry which reflected the four selected variables. This section shed light on Arab regulatory and market developments, discussing the role of the state in the market, the different types and developments of economies and the phases of restructuring that Arab economies have gone through since independence. This contextualisation ensured a setting to understanding the cases of Egypt, Jordan and Morocco. The second section focused uniquely on Morocco, Jordan and Egypt from the restructuring of the economies which took place in the 1980s and 1990s until the early 2000s. Several characteristics were outlined and are still discernible in current institutions. These included the role of the state in the economy, the high level of young labour force, unemployment, the role of the military and the close relationship between private businesses and governments. This contextualisation followed a historical trend and went from the general MENA region to the particular cases of Egypt, Jordan and Morocco.

Finally, the third section of this thesis analysed the four selected state variable from the early 2000s. The discussion was based on Figure 7, presenting four graphs measuring the four variables for each of the countries. The joint visualisation of the four graphs allowed for a clearer comparison. The section discussed the two hypotheses linked to the conditions to policy adoption. The first one (H_1 High) stated that the higher the degree of governance and market openness, political and market interconnectedness, the higher the probability of policy diffusion taking place. The second one (H_2 Low) stated that the lower the degree of governance and market openness, political and market interconnectedness, the lower the probability of policy diffusion taking place. Based on these hypotheses, the given assumptions were that Morocco and Jordan were likely to adopt policies more readily than Egypt, being situated

more to the right of the continuum (Section 1.5.1). These assumptions were strengthened by the results of the first empirical chapter (Chapter 4), which concluded that in both Jordan and Morocco the adoption of policies that had originated elsewhere was more distinctly observable than in the case of Egypt.

The results of this chapter confirmed that in the case of Jordan, the four selected state variables constantly scored higher than in Egypt and Morocco. It confirmed the hypothesis that the higher the degree of all four variables, the higher the likelihood of adoption. The case of Egypt was also partially correct when confirming the hypothesis as it scored lower than Jordan on all four variables. However, in three instances, between 2000 and 2005 for political interconnectedness, between 2007 and 2012 for the variable of market openness and between 2004 and 2010 for economic interconnectedness Morocco scored lower than Egypt. This suggests that some variables have clearer explanatory potentials, notably government's openness.

The fact that Morocco scores similarly to Egypt in three instances, brings an interesting twist to the framework. In the case of political interconnectedness, the lower results of Morocco took place between 2000 and 2005. Afterwards, Morocco scored higher as expected. The two other variables of market openness and market interconnectedness also present discernible differences. This suggests that they have less explanatory potential than expected regarding vulnerability to external actors. While the case of Jordan justifies the use of both market variables, the case of Morocco limits the significance of the results. The Moroccan case suggests that the best variable to explain conditions under which a country is likely to adopt a policy that originated elsewhere is governance openness. This is significant in countries such as Jordan, Morocco and Egypt which are marked by government control in policy-making. This brings an interesting nuance to the argument brought about by policy diffusion authors that the market may be central to policy diffusion (Elkins et al., 2006, Schmitt, 2014, Simmons et al., 2006). In semi-authoritarian countries, such as Jordan, Morocco and Egypt, it appears that policy-making is linked to government variables rather than market ones.

At this stage of the empirical research, a major observation can be concluded. In the first empirical chapter, focusing on the observation of two management ideas in two policy sectors in Morocco, Jordan and Egypt, it was concluded that

Egypt did not adopt policies as distinctly as did Morocco and Jordan. In USO and spectrum management, the direct correlation between external policies and their adoption domestically was less remarkable in Egypt than in both Morocco and Jordan. This conclusion was confirmed with the results of this second empirical chapter. Taking into account all four state variables, Egypt has scored constantly lower than Jordan. The mixed results with Morocco bring a nuance to the validity of the four variables, but do not challenge the fact that in the context of this thesis and the selected policies, Egypt has not visibly adopted policies originating externally and neither was it expected to do so, according to the state assumptions of this thesis.

Following this observation, it has been decided in the context of this thesis not to discuss the case of Egypt in the following chapter. This is motivated by the fact that the framework of Chapter 6 aims at disentangling mechanisms of policy diffusion in cases where policy adoption has been clearly observed. As the cases of Egypt have not been as significant as the cases of Jordan and Morocco, it has been decided that they will not be further discussed. For instance, the next chapter only focuses on four cases. The two high policy adoption cases are USO in Morocco (case study 1) and USO in Jordan (case study 3). The two medium policy adoption cases are spectrum management in Morocco (case study 2) and spectrum management in Jordan (case study 4).

6 CHAPTER 6 – Mechanisms of diffusion

6.1 Introduction

This chapter answers the second sub-question of this thesis: how does policy adoption take place. It combines five sector variables to the four mechanisms of diffusion mentioned earlier, learning, imitation, competition and coercion. These variables have been outlined in relation to the work of the NRAs in policy making. NRAs are considered central to policy making in the telecommunications sector, due to the technological aspect of the field. They often work as a delegate to the Ministry to engage in the policy-making activity, as they possess hands-on knowledge of the field. While the Ministries set out the vision and the political aspects of the telecommunications policies, the NRAs implement the rules and regulations to allow for the practical functioning of the field.

The relationship of delegation between the Ministries and NRAs was observed in the field research. Expert JO1 of the Jordanian Ministry of Telecommunications argues that “[w]hen talking about the telecommunications sector, the one responsible is the Ministry. It puts the legislation in place. However, we always coordinate with the TRC” (Expert JO1, 2014). For instance, the TRC participates through the mandate of the Ministry to any UN body, such as the ITU, as regulatory issues and technical standards are managed by the TRC (Expert JO1, 2014). The relationship between the NRA and the Ministry of Telecommunications is similar in Morocco. One of the experts of the Ministry mentioned that “[a]ll programmes of the telecommunications sector are developed jointly with the ANRT (...) for technical practices the ANRT is in charge, there would be no reason to intercept in the ANRT’s work (...) However, all missions are established under the authority of the government. The Ministry is in charge of establishing the strategies, laws and regulations” (MO1, 2014). The Jordanian and Moroccan examples illustrate the role of NRAs as delegate to the Ministries. The Ministries

are responsible for the legislations that are in place. The NRAs, however, are the ones who are part of regional and international regulatory bodies.

The sector variables are divided into two sets. The first one refers to the type of environment in which policy making is taking place for the NRAs. The environment refers to two channels of policy-making. The first environment is the international one. It refers to the work within international bodies, such as the ITU, World Bank or WTO. The second one refers to transgovernmental activities. These can take the form of bilateral agreements, institutional partnerships such as twinning projects and transgovernmental forums, such as EMERG. The second set of variables refers to the sector pressures. It defines the push factors to engage in policy-making. These pressures are divided into three main categories. The first concept refers to cases where the policy-making process is made in an attempt to reach enhanced efficiency. Reaching efficiency is presented in this framework as the opposed to following the leader. Efficiency defines a focus on the action of a policy versus leadership, which defines a focus on the actor. The second variable refers to economic interests and the need to convene corporate interests and reach maximum profits. Finally, the sanction capacity variable refers to situations where policy-adoption occurs following the pressure of an external actor. In this variable, the notion of having the capacity to impose sanctions on other actors is central.

This chapter combines the five sector variables to the four mechanisms of diffusion, learning, imitation, competition and coercion in order to infer, in cases of policy adoption, what mechanism has been at play. Four hypotheses are drawn based on the literature of policy diffusion. They are visible in Table 1 (firstly shown in Section 1.4, page 24).

Table 1 Sector variables defining mechanisms of diffusion

	Sector Environment		Sector Pressures		
	International regulatory channels	Transgovern mental collaboration	Efficiency	Economic Interest	Sanction capacity
Learning (H₃)	-	+	+	-	-
Imitation (H₄)	-	+	-	-	-
Competition (H₅)	+	-	+	+	-
Coercion (H₆)	+	-	-	+	+

Notes: Values: +: presence of variable is related to mechanism; -: absence of variable is related to mechanism.

Source: Author.

The first hypothesis of the mechanisms of diffusion framework corresponds to the learning mechanism (H₃ learning): Learning mechanisms occur in a context exempt of international regulatory channels, economic interest and sanction capacity, where transgovernmental collaboration is used with the objective of efficiency enhancement. The second hypothesis relates to the mechanism of imitation (H₄ Imitation): Imitation mechanisms occur in a context exempt of international regulatory channels, economic interest and sanction capacity, where transgovernmental collaboration is used with the objective to reach conformity with the perceived leaders in the field (the absence of efficiency variable). The third hypothesis relates to the mechanism of competition (H₅ Competition): Economic competition mechanisms occur in a context of exempt of sanction capacity, where international regulatory channels and not transgovernmental ones, are used with the objective to satisfy economic interests and reach efficiency. The fourth and last hypothesis concerns the mechanism of coercion (H₆ Coercion): Coercion mechanisms occur in the context of economic interest, leadership and sanctions capacity, where international regulatory channels and not transgovernmental ones, are used principally and possess the capacity to impose sanctions. Based on the above, the two sector-cases, USO and spectrum management are linked to assumptions that are discussed in this chapter (Section 1.5.2).

Following the results of Chapter 4 and particularly Table 19 on page 119, it was suggested that sector level differences in USO and spectrum management explained diverging levels of policy adoption. USO management ideas were adopted more easily in Jordan and Morocco than spectrum management ideas. This is due to the fact that spectrum management is a sophisticated field, where policy innovation requires technological tools and capacity. USO policies are on the contrary of lesser sophistication and scope and can thus be diffused more easily. Table 3 summarises how the five variables are linked to the mechanisms of diffusion and how the sector assumptions are defined (firstly shown in Section 1.5.2, page 33).

Table 3 Subsector-cases assumptions

	Sector Environment		Sector Pressures			Policy Sector
	International regulatory channels	Transgovernmental collaboration	Efficiency	Economic Interest	Sanction capacity	
Learning (H₃)	-	+	+	-	-	USO
Imitation (H₄)	-	+	-	-	-	USO
Competition (H₅)	+	-	+	+	-	Spectrum
Coercion (H₆)	+	-	-	+	+	Spectrum

Notes: Values: +: presence of variable is related to mechanism; -: absence of variable is related to mechanism.

Source: Author.

Both subsectors are expected to perform differently in cases of policy adoption. The main difference relates to their economic and political weight. The USO sector does not carry much economic and political weight, neither nationally nor internationally. USO policies do not involve high adoption costs, as their aim is rather social and supplementary to other existing regulations. International regulatory bodies and corporations do not feel threatened by policy making in this field. As a consequence, it is argued that sufficient leeway exists for adopting countries to learn or imitate as wished, without restrictions from external parties. On the contrary, policies relating to spectrum management are

vital to the economy of a country and its connectivity. In contrast to USO policies, spectrum policies carry a heavy economic and political burden. Corporations are inclined to see harmonised markets across countries to be able to enjoy economies of scale. Governments use spectrum for their own purpose, for military and security objectives and sometimes also are shareholders of phone companies. Furthermore, they gain much profit from the sale of spectrum, for example through auctions. Finally, international and regional actors have a remarkable interest, both in profit and security objectives. As a consequence, patterns of coercion and competition are likely to occur in the majority.

This chapter is divided into two sections. The first section presents the context of the telecommunications sector with a focus on Jordan and Morocco. This section frames each of the four propositions surrounding the mechanisms of the policy diffusion framework (Section 2.4.2) to allow for a deeper sectorial understanding of the framework. The second section analyses and discusses the four remaining case studies, USO in Morocco (case study 1), USO in Jordan (case study 3), spectrum management in Morocco (case study 2) and spectrum management in Jordan (case study 4). Each case is discussed in the light of the mechanisms of the diffusion framework. It assesses the role of international and transgovernmental channels and of the three pressures for each of the four remaining case studies.

6.2 Contextualising the framework propositions

This contextualisation part is based on the four framework propositions presented in Section 2.4.2. Similarly to the contextualisation part of the previous chapter (Section 5.2), this section presents a context to understand the four framework propositions of the thesis in relation to the empirical cases. The first framework proposition concerns the link between economic interests and the international structure. This section further elaborates on the telecommunications corporate sector to understand market and economic interests in the field. The second framework proposition relates to the concept

of efficiency versus leadership. The discussion presents a series of arguments surrounding both concepts in the field of telecommunications. Notably, it focuses on technology and the role of standards in limiting certain regulatory choices. The third framework proposition concerns the link between sanctions capacity and coercion. The discussion proposes a differentiated approach to the capacity of international bodies, such as the WTO, World Bank and ITU to impose regulatory decisions. Finally, the fourth framework proposition mentions the role of the transgovernmental frameworks and their role as a policy diffusion channel exempt of economic and sanction pressures. A closer look into EMERG and telecommunications twinning between the EU and Mediterranean NRAs further exemplifies and questions this argument.

Framework Proposition 1: Mapping the multinational corporate sector

The telecommunications corporate sector has changed in nature over a couple of decades. The relationship between economic interests, policy-making and telecommunications actors has grown in a more complex and intricate way (Raboy and Padovani, 2010, Padovani and Pavan, 2011). Several authors have underlined the changing nature of the market in the telecommunications sector (Alexiadis and Cave, 2010, Bauer, 2010a, Thatcher, 2004). Changing actors in the field have increasingly incorporated multinational regulatory authorities and the emergence of large global corporate alliances, with complex patterns of ownership (Rodine-Hardy, 2013:16, Bucheli and Salvaj, 2014). In the telecommunications sector, the role of the market and economic interests is one of the key drivers for development (Gruber and Koutroumpis, 2013). In this thesis, the influence of corporations and potential profits in the telecommunications sector is confirmed by various experts met during the field research.

Several experts enumerate large multinational corporations as agent of change. Expert EU14 of BAKOM, the Swiss NRA mentions that changes in the telecommunications sector are almost always directed by economic interests, the business opportunities (Expert EU14, 2013). He mentions that “[i]n Europe,

many operators are interested in the South Mediterranean market, such as Vodafone, Orange, Telefonica, Teleitalia and Deutsche Telecom. They are active actors” (Expert EU14, 2013). He furthermore underlines that the main objective was preparing the market for the European operators. The aim is not to impose a certain regulatory framework but to suggest it (Expert EU14, 2013). This position is shared by several experts based in European countries. Expert EU16 of the Portuguese NRA, ANACOM mentions that “[a]ll ideas at the EU level, we try to export them, so there might be approximation and make markets more open and friendly to EU FDI and enterprises” (Expert EU16, 2013). The interest of policy-makers to adopt or spread policies that improve the market potential of the corporate sector seems logical. It is however, not always easy to demonstrate this influence on policy-making.

A revealing way to discuss the involvement of corporations in policy-making is to focus on the ownership of corporations. It offers another approach and level of understanding to explain the choice of policy-makers of certain practices and standards in the field. In Morocco and Jordan, the role of corporations is central to the functioning of the state, even if it is in practice difficult to pinpoint or have discussions about it. Table 21 shows the latest ownership patterns for the main mobile phone companies in each country. It focuses on up to the three main shareholders of each telecommunications company. The table shows five categories of ownership. The first two categories show European and Gulf ownership. It refers to privately and publically owned companies active in Jordan and Morocco, whose origins are either in EU member states or Gulf countries. It is followed by two types of domestic ownerships. The first one, domestic government interests, relates to the shares that the government owns in the company. The next category, domestic private interests, shows the ownership by national private companies. The last category, other, includes the remaining shareholders when there are more than three. It also includes cases of corporations listed in the stock market, as is the case of Maroc Telecom in the Casablanca stock market.

Table 21 Shareholders of mobile phone operators

	Mobile Licence	Latest ownership change	Sources	European Companies	Gulf Companies	Domestic Government Interests	Domestic Private Interests	Other
Morocco								
Maroc Telecom (IAM)	1994	2014	(IAM, 2014:32, IAM, 2015:32, ANRT, 2007b)		Etisalat (UAE)* 53%	Kingdom of Morocco 30%		17%
Meditel	1999	2010	(Meditel, 2010:24, ANRT, 2007a)	Orange Group (France)** 40%		Caisse de Dépôt et de Gestion CDG 30%	Finance.Com 30%	
Inwi (ex-WANA)	2006	2009	(World Bank, 2014a:129)		Zain/AI Ajial (Kuwait) 31%		ONA*** 69%	
Jordan								
Jordan Telecom	Fixed Service only	2008	(Orange Jordan, 2008)	Orange Group (France) 51%	Noor Telecom (Kuwait) 10%	Social Security Corporation 29%		
Zain JO	1994	2003	(Zain, 2014)		Zain Group (Kuwait) 91%			8%
Orange JO Mobile	1999	2000	(Orange Jordan, 2014:17)	Orange Group (France) 90%				10%
Umniah	2004	2006	(Batelco, 2013:61)		Batelco (Bahrain) 96%			4%

Notes: As of November 2015. Shares rounded to nearest whole number.

*Until 2013, partial ownership belonged to Vivendi (France) 53% (IAM, 2014:32, IAM, 2015:32, ANRT, 2007b).

**Until 2010, partial ownership belonged to Telefonica Moviles (Spain) 32% & Servico de Telecomunicaçoes (Portugal) 32% (Meditel, 2010:24, ANRT, 2007a).

***ONA was dissolved in 2010 and is now part of SNI. SNI comprises high stakes of the Moroccan Royal Family (Abdellatif, 2014).

Source: Author. Based upon company reports (as mentioned in Table).

Several observations are given by Table 21. The first one is that European companies and particularly French ones have had a strong hold on mobile companies in both Morocco and Jordan. Lately, however, only the French Orange Group is present in both countries. Orange acquired 40% of the

Moroccan Meditel in 2010, previously owned by the Spanish mobile phone corporation Telefonica Moviles and the Portuguese one Servico de Telecommunicações, who together used to own 64% of Meditel (Meditel, 2010:24). In Jordan, JTC was previously owned by the state, but in 2000, 40% of JTC was sold to the Joint Investments Telecommunications Company, a fully owned subsidiary of Orange Group (France). By 2008, the government had almost completely retreated from the fixed services, with the shareholding reaching 51% for Orange, 28.8% for Social Security Corporation and 10% for Noor Telecoms, a Kuwaiti-based conglomerate (Orange Jordan, 2014:18, Orange Jordan, 2008:49). JTC was renamed Orange fixed in 2007 after a rebranding of Orange phone services in Jordan, including the Orange mobile, acquired in 2000 (France Telecom, 2007:12, Orange Jordan, 2014:17). Finally, Vivendi, another French consortium, used to own 53% of the shares of Maroc Telecom (IAM) until 2013 (IAM, 2014:32, IAM, 2015:32). It was then sold to the Emirati company Etisalat. The presence of European companies in Jordan and Morocco confirms the importance of studying the relationship between both areas in the sector.

The second observation is that Gulf countries are also very present in the telecommunications sector in both Morocco and Jordan. In Morocco, 53% of the shares of IAM belong to Etisalat (IAM, 2014:32, IAM, 2015:32). Furthermore, the second Moroccan mobile operator, Inwi is 31% owned by Zain, a Kuwaiti consortium (World Bank, 2014a:129). Zain also owns 91% of Zain Jordan (Zain, 2014). Noor Telecom owns 10% of the shares of JTC (Orange Jordan, 2008). Finally, Bahrain owns 96% of Umniah the third mobile phone company of Jordan (Batelco, 2013:61). While the relationship between the Gulf countries and Jordan has always been very close, it is still very interesting to see how closely the Gulf countries are involved in major corporations in both countries. The Gulf presence in Morocco is more recent, than in Jordan. Zain has been an actor in Morocco since 2009 and the Etisalat since 2014 (IAM, 2014:32, IAM, 2015:32). The increasing presence of Gulf States in the telecommunications sector in Morocco shows a shift from European corporations to Gulf ones, suggesting a recent turning point in corporate interest in the region.

The third observation is that multinational phone corporations come uniquely from the Gulf and European regions and no company originates from other locations, such as the US, China or other major phone corporations. This confirms the importance of being part of the same ITU region to develop the market and standards. It also confirms why the EU policy examples are followed closely rather than US ones in the field. There is also no presence of Moroccan companies in Jordan and vice-versa. Neither is there the presence of MENA companies excluding the Gulf region in both countries. This confirms the argument of several experts who mentioned the lack of cross-regional interest in the MENA region and the consequent minimal practice sharing across countries, except for spectrum management through the Arab Spectrum Management Group (ASMG) to avoid interferences (Expert JO2, 2014). In fact, several experts of Jordan mentioned their interest in EU policies because of the lack of other regional examples. One of the experts of the TRC mentions that the countries in the extreme vicinity are suffering with civil conflicts. The Gulf States are not examples of regulation based on competition, as governments own the main phone companies. Finally, the US is too big to be comparable to Jordan. For these reasons, countries of the European shore, such as Italy make more sense so to compare the models (Expert JO2, 2014). This illustrates once more the close relationship between the EU and the Mediterranean region and the autonomous will of Jordan to grasp policy ideas from the EU countries.

The last observation is that the Kingdom of Morocco is still present in the field of telecommunications. The government owns 30% of IAM. Furthermore, the Royal family is a major shareholder of the company SNI (former ONA), which owns 69% of the company Inwi (IAM, 2014:32, IAM, 2015:32, World Bank, 2014a:129). Finally, La Caisse de Dépôt et de Gestion (CDG), a public financial institution, owns 30% of the shares of Meditel (CDG, 2009). In Jordan, the only governmental link to the telecommunications corporation is 29% of shares owned by the Social Security Corporation, which is also a public financial institution. The presence of two public investment funds in the Jordanian and Moroccan sectors confirms that such fields are a safe investment to secure profits. Nevertheless, the Moroccan government is more involved in the sector

compared to Jordan. This confirms two premises. Firstly, that Jordan has been a champion of liberalisation practices in the late 1990s, with an almost complete retreat of the state in the field. Secondly, the involvement of the Moroccan government in phone corporations reminds of the Egyptian situation, with a similar involvement of the Egyptian government in the sector (Section 4.3.3). The hold of the Moroccan government over the telecommunications market is not as apparent as in Egypt, but it shows the weight of the government in the field. It illustrates in both cases the lower scores of market openness, compared to Jordan, as mentioned in Section 5.4.

Framework Proposition 2: Efficiency, leadership and the technological restraints

The difference between focusing on the efficiency of a policy originating externally or on the external actor implementing a certain policy is key to differentiate mechanisms of diffusion in theory. The pressure leading to policy change is different in both cases. However, it is not always simple in practice to distinguish the one from the other. One issue is that focusing on the leader may be a way to ensure better efficiency, making both aims overlap. It is linked to the limits of policy-makers to observe all policy options available to them, which is often referred to as bounded or channelled learning in policy diffusion literature. This has been discussed in the conceptual chapter of this thesis (Section 2.4.1). The focus on efficiency or leaders to implement policy change is based on an ideal case scenario where all models are available for the policy-makers to use.

In the telecommunications sector, however, which is grounded in cross-national economic interests and intensive technology, policy-makers have less options for their policy selections, as theory predicts. This is notably the case due to technological restraints. These have had a key role from the 1990s with the advancement of digital mobile communications. However it appears that the technological constraints are increasingly reducing, with the consequence of re-designing alliances across regions of the world. Nevertheless, the advances of technology do not prevent systems from coexisting. The cohabitation of several

standards takes place in the sector (Polak et al., 2014). Polak et al. furthermore mentions that technologies are sometimes competing and their cohabitation may lead to suboptimal results (2014). The advances in technologies create pressures on existing band allocation to free more space. The freeing of spectrum is in line with the DTTB decision of GE06 (Section 4.2.2). Furthermore the decision taken during WRC-12 and WRC-15 to allocate 700MHz to mobile allocation, which is discussed below, also takes place in a context of increasing pressure of technological advances on spectrum allocation.

The role of technological limits between the EU and Mediterranean countries has often been a theme mentioned by experts. Contrary to the idea that the European shore is more advanced than Mediterranean ones (EMERG, 2012c:3), several experts questioned traditional power organisation and underlined the increasing importance of Southern countries in the field. Expert EU6 mentions that some neighbouring countries are sometimes way ahead. He argues that certain countries where the fixed network is less developed, have acquired advanced telecommunications services based on wireless technologies. He mentions that “certain late adopters of 2G or GSM directly went to 3G. This is the case of countries, such as Nigeria or Kenya” (EU6, 2014). Morocco also appears as a case focusing on advanced technologies as it just released 4G licenses mirroring and sometimes even leapfrogging EU member states. Expert EU6 mentions that in the EU the 2G, GSM model was very advanced. With this success, there was less initiative to move on (EU6, 2014). This suggests that alliance and traditional power relations are increasingly put under pressure.

Countries that are considered less developed than post-industrial ones, particularly in sophisticated fields such as telecommunications, may be actually ideally positioned to embrace innovative technologies and regulations. A focus on the evolution of mobile phone technologies supports the understanding of limited choices when looking for inspiring models abroad. Table 22 presents a selection of the main technologies used in Second Generation mobile

communications (2G), Third Generation (3G) and finally, fourth Generation (4G).

Table 22 Radio Technologies for Mobile Technologies

Technology	Since	Access Protocol	Service Bit-Rate (downlink)
2G (GSM)	1991	TDMA/FDMA	22.8 Kbps
2G (IS95)	1995	CDMA	115 Kbps
3G (UMTS)	2001	WCDMA	384 - 2048 Kbps
3G+ (CDMA2000)	2001	CDMA	2.5 – 15.7 Mbps
3G+ (HSPA)	2005	CDMA	22 - 56 Mbps
4G (LTE)	2009	OFDMA/SC-FDMA	100 Mbs
4G (LTE advanced)	2011	OFDMA/SC-FDMA	1 Gbps

Source: Author. Based upon academic authors and reports (Raychaudhuri and Mandayam, 2012:827, GSMA, 2015a, 3GPP, 2009, Agilent, 2011, Rohde & Schwarz, 2015).

Table 22 only illustrates a selection of worldwide technologies. There exist many additional technologies, such as EDGE or WiMAX that are not discussed in this part. The focus on a selection of them already reveals several trends shedding light on the selected case studies' contexts. One of the interests is the growing harmonisation of the standards since the launch of 2G. LTE and more precisely LTE-advanced is increasingly used worldwide and may lead to a worldwide Fifth Generation (5G) standard (Chin et al., 2014). This move from region-wide to worldwide standards is illustrated in the historical contextualisation below. It appears that harmonisation has growingly taken place across technologies and regions to hypothetically reach a worldwide standards based on similar band frequencies.

The two most common 2G technologies are GSM and IS95²². GSM standards were created on the impulsion of the CEPT, who established in the 1980s a group named Groupe Spécial Mobile (GSM), later called the Global System for Mobile Communication, with the task to establish a cellular system to be introduced in Europe. It was taken over by the European standard institute, ETSI, from 1989 (GSM, 1987, GSM, 1991). The GSM standard was completed in 1990, with Finland being the first country to apply the standard in 1991 (Huurdeeman, 2003:529, Taylor and Vincent, 2005:77). Several authors mention that the development of the GSM standards in the 1980s illustrates the move from monopolistic state-centred systems to privatised and competitive telecommunications, as for the first time, private equipment manufacturers and industry researchers took part in the development of standards (Acker, 2014:562, Russel, 2005:10). The development of the 2G technologies naturally led to the 3G, also known as Universal Mobile Telecommunications System networks (UMTS).²³

The evolution of the 3G technologies was moderated under the ITU's International Mobile Telecommunications, IMT-2000 programme, which selected five standards for the use of newly allocated bands based on three different access technologies (FDMA, TDMA and CDMA) (ITU, 2015c). 3G was a turning-point in mobile standards development as it encompassed key features of innovation, such as multimedia entertainment, infotainment and location-based services (ITU, 2011a). 3G services typically feature higher data transmission than 2G and were allocated frequency bands that were not

²² Contrarily to the First generation of wireless mobile communication system, 2G is based on digital cellular systems and the use of digital modulation schemes, such as time division multiple access (TDMA) and Frequency Division Multiple Access (FDMA) for GSM and code division multiple access (CDMA) for IS95 (KUMAR, P., SHARMA, J. K. & MANWINDER, S. 2013. 5G Technology of Mobile Communication. *International Journal of Electronics and Computer Science Engineering*, 2, 288-292.)

²³ The evolution of 2G to 3G increasingly used CDMA2000 as a physical layer resulting in higher transfer rates than 2G. UMTS, as is IS-95 and its successor, IS-2000, are based on a more evolved form of CDMA, called the Wideband CDMA (WCDMA) (NATIONAL INSTRUMENTS. 2014. *IS-95 (CDMA) and GSM (TDMA)* [Online]. Wireless Standards White Paper Series. Available: <http://www.ni.com/tutorial/7107/en/> [Accessed 2015 Dec 8].)

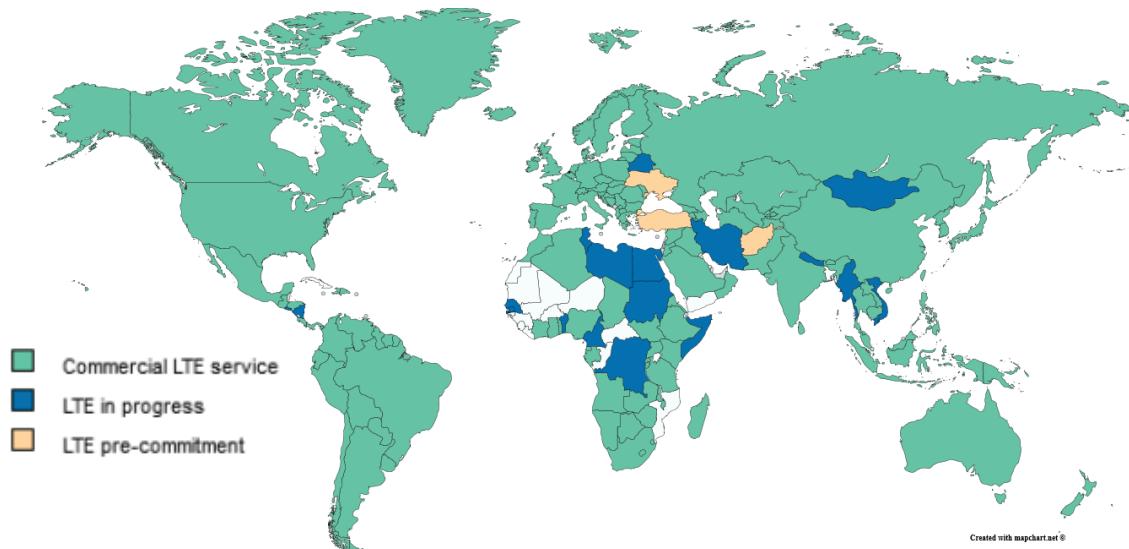
allocated to 2G. Adequate bands for 3G technologies were chosen following the 1992 World Administrative Radio Conference (WARC) and confirmed by Resolution 212 adopted during the 1997 WRC. In Europe, UMTS technologies were adopted, while in the US CDMA-2000 was preferred (Raychaudhuri and Mandayam, 2012). 4G developed from the experience of 2G and 3G to include a series of high quality voice and video services, coupled with high data-rate quality.

Long Term Evolution (LTE)²⁴ is the evolution from both the GSM and UMTS, but also from CDMA2000 networks. This standard was developed by the Third Generation Partnership Project (3GPP) under the Release 8 specifications (3GPP, 2015a). 3GPP is hosted in the headquarters of ETSI. It is a consortium based on seven organisational partners, such as ETSI, from Asia, Europe and North America producing technical specifications to become standards approved by standardisation bodies²⁵. 3GPP also includes more than 370 individual member companies, market representation partners and observers (3GPP, 2009). This illustrates the international interest, including that of corporations, in developing worldwide standards for 4G mobile communications. Figure 8 shows the 4G LTE coverage map.

²⁴ It is based on Orthogonal Frequency Division Multiple Access (OFDMA) and Single-carrier Frequency Division Multiple Access (SC-FDMA) (RUMNEY, M. 2008. *3GPP LTE: Introducing Single-Carrier FDMA* [Online]. Available: <http://cp.literature.agilent.com/litweb/pdf/5989-7898EN.pdf> [Accessed Dec 12 2015].).

²⁵ The seven Organisational Partners are ETSI, the Japanese Association of Radio Industries and Businesses (ARIB), the American Alliance for Telecommunications Industry Solutions (ATIS), the China Communications Standards Association (CCSA), the Indian Telecommunications Standards Development Society (TSDSI), the Korean Telecommunications Technology Association (TTA) and the Japanese Telecommunication Technology Committee (TTC) (3GPP. 2015b. *Partners* [Online]. Available: <http://www.3gpp.org/about-3gpp/partners> [Accessed Dec 9 2015].)

Figure 8 4G LTE World Coverage Map



Notes: As of November 2015.

Source: Author. Based upon reports (GSA, 2015, World Time Zone, 2015, GSMA, 2015b) and format support (Mapchart, 2015).

Figure 8 shows that LTE technologies are already widely spread in the world. Countries lagging behind are mostly in Sub-Saharan Africa and several other countries are still implementing LTE or are pre-committed to the implementation, such as Mongolia, Nepal and Iran. Morocco and Jordan both have implemented LTE launches as mentioned in section 4.3. The next level of advances of LTE is called LTE-advanced, which is recognised by the ITU in its IMT-Advanced specification (Agilent, 2011, Rohde & Schwarz, 2015). LTE-Advanced was presented in 2009 by 3GPP to become an accepted standardised technology (3GPP, 2009). With LTE and LTE-advanced, it appears that technical limitations, if they have been essential in the sector for several decades may reach a new harmonised level.

Even if it can be observed that some countries of Sub-Saharan Africa and Asia are lagging behind in implementing LTE services, there is an unmissable trend where Southern countries present interest and capacity to innovate and eventually leapfrog more advanced states in the field. Advances in technologies offer opportunities to catch up with worldwide standards directly. This position was shared by several experts during the field research. Expert MO7 from the

ANRT mentions that technology is now evolving to create new wireless norms for high-speed data, such as LTE, which will overcome the geographical limits of region 1 (Expert MO7, 2014). This position was also underlined by an experts of the EC, who mentions that “[t]he LTE advanced shall soon be the world standard and lead to 5G” (Expert EU6, 2014). In addition, the changing technologies developments may put traditional practices and alliances under pressure. Expert MO7 from the ANRT states that “[w]hen we adopt norms, we take into account the CEPT and the ITU and also nowadays the US, via the Federal Communications Commission (FCC). When FCC norms are conventional, we can adapt them. However, when we go beyond Region 1, there are always limitations. This is also valid for the Asian region. Norms are taken into account when they are not contradictory” (Expert MO7, 2014). However, this expert underlines that with advances in technology, norms advertised by the FCC may be increasingly relevant to Moroccan context as well (Expert MO7, 2014). Hence, if it is true that in a close past technology has limited the possibilities to choose standards and policies freely, technological advances bringing new worldwide standards may offer further opportunities to go beyond traditional policy flows.

Framework Proposition 3: Defining the environment's sanction capacity

The sanction capacity of the telecommunications environment is ambiguous. Three main international bodies are active in the telecommunications sector, the ITU, the WTO and the World Bank. But only the WTO possesses the DSM mechanism to settle specific issues. In the context of USO and spectrum policies from 2000, the World Bank is not expected to possess sanction capacity due to its role as a best-practice sharing forum and not as a lending body. This supports Rodine-Hardy's argument that the role of the World Bank has developed into information gathering and facilitation rather than in coercion (2013:35). The World Bank handbook and platform are key references and several experts mentioned the positive reputation of certain models advertised

within the World Bank, as was the case for USO models of Latin American countries, which were taken over by Morocco.

The case of the ITU is interesting in this thesis. Several experts share the opinion that the ITU does not possess much power in terms of sanction capacity. They mention its key role to provide information and advices regarding telecommunications regulation, but not as a coercive body. Expert EU21, from the ITU, mentions that “[t]here exists no enforcement mechanism for sanctions, or to deprive members from certain rights” (Expert EU21, 2014). He argues that the ITU is a gentleman's agreement, which functions by consensus in a stable framework and mentions that it would be very damaging if certain countries did not follow the regulatory framework or even adopt counter-positions. The result of which is the signature of each measure or treaty after long discussions and consensus (Expert EU21, 2014). This argument is shared by expert EU6 from the EC who mentions that there are no risks, for example financial fines, involved in not following the ITU legislation. He nonetheless mentions that the ITU could take some decisions, for example refusing to register and thus protect some signals (Expert EU6, 2014). This suggests that measures to implement sanctions with the ITU are only limited. This position is shared by Rodine-Hardy, who argues that the ITU plays a key role as an information network, with no sanctioning power for membership and no strict enforcement mechanism for harmonisation (2013:33). She argues, that the ITU “does not have much “teeth” in terms of requiring countries to take action for regulatory reform” (2013:35). In that regard, the ITU does not impose sanctions in a visible and consequent manner.

However, the ITU may also present much subtler forms of power struggle. The ITU does not possess sanctioning power as an institution. However its role in allocating spectrum and agreeing on standards is central to the sector, revealing large governmental and business interests. Its members can be persuasive so to reach a specific outcome. The role of alliances within the ITU was underlined by several experts. Expert EU21 from the ITU mentions that persuasion is attempted in order to reach certain ends (EU21, 2014). This was

confirmed with Expert EU6 of the EC, who mentions that in the ITU cooperation and relationship, the balance has changed significantly, as everybody is pushing their own agenda. He underlines that there are noticeable efforts to go to greater convergence, however alliances create and develop challenging existing orders (Expert EU6, 2014). In the ITU, negotiations are intensive, but recently, a shifting of powers and the rise of the new forces of regulatory powers has taken place. This is apparent in Expert EU6' statement mentioning that "[r]ecently the African countries have had more and more weight in the regulation" (Expert EU6, 2014). In fact, the WRC 2012 has been a key point, where the resistance of African and Middle Eastern countries has been felt against traditional patterns of power emanating from the EU.

During WRC-12, African and Arab countries called for the allocation of the 694-790 MHz band to mobile services to meet the growing broadband demand. The item was actually not on the WRC-12 agenda and came as a surprise for the European counterparts. African and Arab countries argued that the 694-790 MHz band was already allocated in ITU regions 2 and 3 for mobile service and thus an harmonised allocation would improve the use of worldwide systems (El-Moghazi et al., 2013:24). European countries were opposing these proposals due to their allocation of 694-790 MHz bands to terrestrial broadcasting services (Ala-Fossi and Bonet, 2015). Moreover, large investments had already been made in Europe to proceed to the DTTB (Stirling, 2012, Lamy, 2014). Following the WRC-12, the frequency band 694-790 MHz was associated with mobile allocation and Resolution 232 called for technical studies to take place during WRC-15²⁶ (ITU, 2012e). WRC-2015 confirmed the mobile allocation for 694-790 MHz band aligning itself to the rest of the world, already using these bands for

²⁶ The decision was part of the revision of the ITU-R Radio Regulations Article 5. A footnote (5.312A) was included in the reviewed 2012 Radiocommunications Regulation mentioning that in Region 1, the use of the band 694-790 MHz by the mobile, except aeronautical mobile, service is subject to the provisions of Resolution 232 (WRC-12) (ITU, 2012c. *Radio Regulations, Articles* [Online]. Available: http://www.itu.int/dms_pub/itu-s/oth/02/02/S02020000244501PDFE.PDF [Accessed August 8 2015].)

mobile allocation (Digital TV, 2015). This decision confirms a change in the balance of power within the ITU.

The proposition of the African and Arab countries was taken seriously by all members of Region 1, as no one wished to risk market dismantlement (El-Moghazi, 2015). This situation recalls the importance of harmonisation in the field of telecommunications, where large economic interests depend on consensus over technologies and standards. The WRC-12 confrontation between different members of Region 1 illustrated a noticeable transition with African countries becoming stronger actors in policy-making in the sector and the European countries reconsidering their spectrum plans. This is an interesting indicator to show that Southern countries are emerging as central actors in international telecommunications regulation. It appears that subtler power relationships in the ITU have an impact on regulatory decisions.

Finally, the case of the WTO is at the core of the discussion surrounding sanction capacity in the field. Several authors mentioned the breakthrough of restraining states' sovereignty in the GBT deal (Section 2.4.3). Furthermore, the use of the DSM, capable of making and enforcing decisions in case of violations of free-trade agreements is a novelty of the GATS system (Rodine-Hardy, 2013:43). The 2011 World Bank handbook also reiterates the importance of the WTO obligations and commitments, enforceable through the WTO's binding dispute settlement process (World Bank, 2011:21). However, in this thesis the role of the WTO, through the GBT and the DSM has been less influential than expected. For instance, the GBT deal is more limited than it appears, in particular as it has mostly mirrored a reform process that was already taken place elsewhere (Drake and Noam, 2000:52, Rodine-Hardy, 2013:43-4). The EU's internal market reforms paralleled and sometimes took place prior to those of the GBT deal (Michalis, 2007). Thus, the impact and scope of the GBT deal and the existence of the DSM may not be as advanced as expected.

Both Morocco and Jordan are members of the WTO and have signed the WTO agreement in Telecommunications services (WTO, 1997c, WTO, 2000). Surprisingly, Jordan has put limitations on foreign presence for mobile voice

and data services, contrary to Morocco. In Jordan, commercial presence is subject to 51% foreign equity (WTO, 2000, WTO, 2003). This limitation does not seem to have particular implications for the telecommunications sector, in the present state, as all companies present in Jordan are owned in majority by foreign corporations. Furthermore, the influence of the DSM in both countries was not observed. In fact, in the case of telecommunications, four DSM cases took place since 1995, none of which concerned either Jordan or Morocco²⁷. In fact, out of these four cases two were solved by the action of the DSM, one was settled bilaterally and one remained pending. It appears that telecommunications disputes have not taken place extensively through the WTO DSM system. Figure 9 presents a map of disputes between WTO members. It includes all types of disputes settled through the DSM.

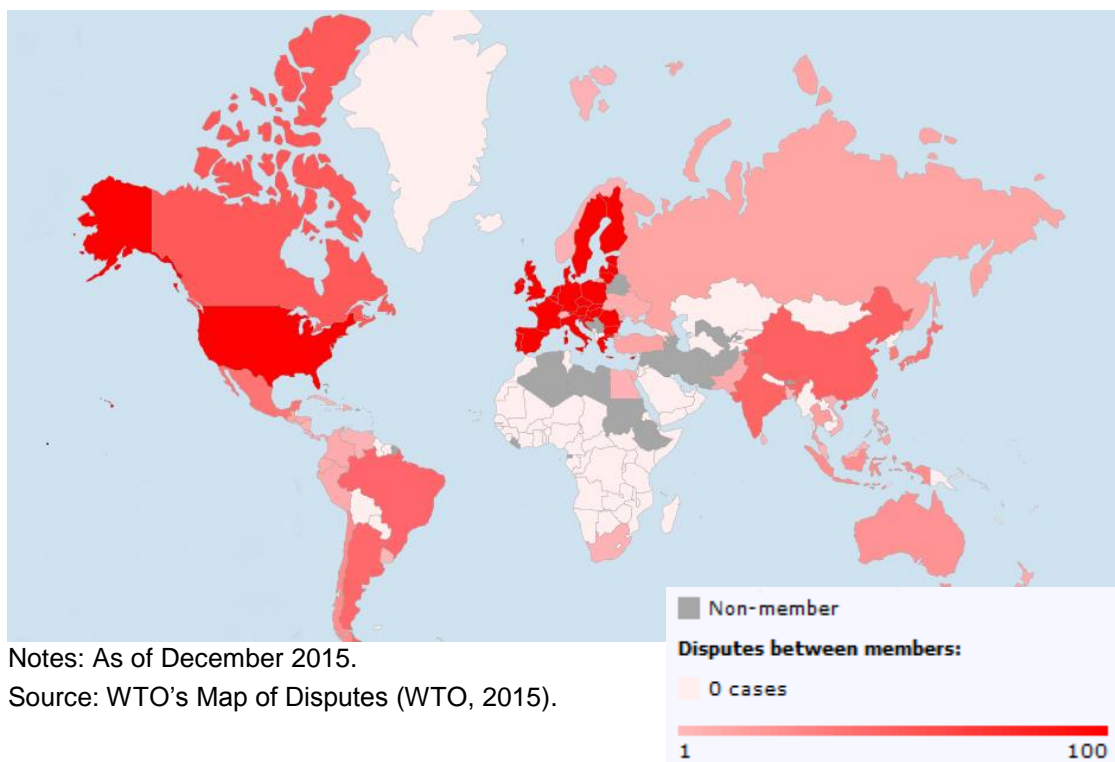
²⁷ In 1995 a case was actioned by the EU against Japan claiming that telecommunications equipment between Japan and the US had been inconsistent. The case mentions that although there had been no official notification, the case had appeared to be settled bilaterally (WTO. 1995a. *DS15: Japan — Measures Affecting the Purchase of Telecommunications Equipment* [Online]. Available: https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds15_e.htm [Accessed Dec 10 2015].)

In 1997 a case against Belgium actioned by the US was opened regarding the provision of commercial telephone directory services. This case is still pending as of 1997, with no information regarding resolution (WTO. 1997b. *DS80: Belgium — Measures Affecting Commercial Telephone Directory Services* [Online]. Available: https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds80_e.htm [Accessed Dec 10 2015].)

In 1997, a case against the Republic of Korea, was also actioned by the EU and concerned the laws, regulation and practices in the telecommunications sector. The EU claimed that the Korean telecommunications sector discriminated against foreign suppliers. It was resolved in 1997, with a mutually agreed solution (WTO. 1997a. *DS40: Korea — Laws, Regulations and Practices in the Telecommunications Procurement Sector* [Online]. Available: https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds40_e.htm [Accessed Dec 10 2015].)

Finally, a case settled in 2005 that was actioned against Mexico by the US, concerned Mexico's commitments and obligations under the GATS with respect to the basic and value-added telecommunications services. It was resolved with a new resale regulation by Mexico complying with DSM recommendations (WTO. 2005. *DS204: Mexico — Measures Affecting Telecommunications Services* [Online]. Available: https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds204_e.htm [Accessed Dec 10 2015].)

Figure 9 Map of disputes between WTO Members



Both Morocco and Jordan, while being members of the WTO have had no dispute settled through the DSM. Most DSM cases have been linked, as complainants or as respondents, to the US and the EU. This shows that the WTO is preferred as an institutional tool for dispute settlement for these two major actors, whereas for countries such as Jordan and Morocco, this method has never been actioned. This shows the supremacy of the EU and the US actors in the use of the WTO institutional tools, compared to less developed region, such as the MENA and Sub Saharan Africa areas.

The few cases of the DSM in the telecommunications sector and the fact that no case concerned either Jordan or Morocco, shows that the WTO, through the GBT and DSM may not be as influential as previously expected in the telecommunications sector. It appears that in this thesis the WTO has become a forum of best-practice based on competition principles. This is consistent with Rodine-Hardy who mentions that the WTO telecommunications framework may well have become a forum for expert discussion and best practice exchanges, as is the ITU and World Bank (2013:43-4). The sanction capacity of the DSM in the WTO in the telecommunications sector is not confirmed in this thesis.

Framework Proposition 4: Governance, coercion and transgovernmental collaboration

The role of transgovernmental collaboration has been argued in this thesis as being linked to learning and imitation. It is linked with the first proposition mentioning that international regulatory bodies aim to manage economic expectations in the sector. Transgovernmental collaboration is exempt from such pressures and can aim for policy adoption, without similar pressures. In this thesis, two main transgovernmental channels have been discussed due to their direct connection between both the EU and the Mediterranean countries. These two forums are the EMERG and telecommunications twinning projects. It is interesting to observe whether these groupings are exempt from economic and sanction pressures as argued in this thesis, or whether such pressures are exercised in different ways. As Cardwell mentions, the variety of EU institutional actors and competences involved in the Euro-Mediterranean partnership corresponds to a system of governance, however, this does not preclude the system in question from being dominated by the EU institutions as central actors and policy-makers (2011:237). He argues that the values contained in the establishment of the system of governance are those of the EU, rather than the product of joint negotiation and agreement with the partner states. Thus, EU governance in the Mediterranean area may be an opportunity to fulfil its aims and promote its values (2011:237). This projection of EU values can be observed in EMERG and the telecommunications twinning, however, MENA countries are not empty recipients of EU promotion and a closer look into both transgovernmental partnerships sheds light on the type of relationships between both areas.

The first regulatory grouping to be closely observed in this thesis is EMERG. It was created as regulators from the ERG and from Mediterranean countries emphasised the need for further liberalisation of the telecommunications markets in order to stimulate widespread information and communication technologies and encouraging foreign and domestic investment (EMERG, 2008). In fact, the economic interest behind the creation of EMERG is visible. It

is at the heart of its 2008 creation statement (EMERG, 2008). The statement underlines that EU member states and neighbouring countries face many similar challenges and opportunities, thus adopting common regulatory measures shall help to face those challenges and uses sustained economic growth and market potential in both areas. It furthermore mentions the high potential of the young population and high usage of mobile telecommunications services and booming internet in the Euro-Mediterranean region (EMERG, 2008:1). Similarly to cooperation taking place at international levels, it appears that EMERG as a regional grouping among NRAs also entails the focus of harmonising the market and reaching economies of scale.

The balance of powers within the grouping is essential to take into account when analysis the potential for economic competition and sanctions in EMERG. The EMERG statement sheds light on this issue. It underlines that this network is a tool to spread EU best-practice in Mediterranean countries and to progressively implement the EU regulatory model abroad (EMERG, 2008). It is observed that the EMERG is emphasising the unidirectional example of the EU as a best-practice model to be followed. The 2012 EMERG report reiterates the logical choice of using the EU framework as the key model to be followed and implemented when gaps are identified. It states that “it stands to logic to use the European model as a basis for comparison and if this leads to identifying relevant opportunities for improvement, to seek to implement them and/or to try and convince competent decision makers to adopt them” (EMERG, 2012b:7). The reports further underlines that “[i]n many non-EU countries there still are many examples of regulation that differ from the EU best practice example which need to be explored and if appropriate, improved” (EMERG, 2012b:4). This shows that EMERG is mostly an EU-led initiative using the method of best-practice sharing based on the EU model, confirming Cardwell argument (2011:237). It suggests that the dynamics within EMERG are more vertical, imposed by the EU, than horizontal as previously thought.

It appears that economic interests and asymmetrical power relationships may be taking place in the EMERG, contrary to what was argued by the framework.

However, the key difference with the international regulatory framework in this case, is that EMERG is based on a voluntary basis and is dependent on the commitment of participants towards setting up resources to manage the network. One of the experts of the EC mentions that in general the ENP suggests a certain direction. He mentions that “[t]here is no coercion, but the possibility to finance expertise (...). This is a soft approach to the export of EU legislation” (Expert EU2, 2013). This focus on a non-coercive approach to expand EU legislation to the Mediterranean countries was straightforward in the interviews of EC experts. Indeed, the 2012 EMERG report reminds that this forum is not an action-oriented vehicle of diffusion “EMERG is flourishing as a platform for knowledge exchange between experts, but not yet as an action-oriented vehicle for improvements and alignments” (EMERG, 2012b:5). The report underlines that if it is true that regulatory harmonisation is at stake in EMERG, it is also true that Southern Mediterranean countries are not member states, nor candidate countries to the EU, thus no legal obligation is set upon them to integrate the EU model (EMERG, 2012b:7). To conclude, the EMERG network is different to international collaboration due to the voluntary and autonomous commitment of its members. This does not exclude the fact that economic interests remain a key motivation for regulatory exchange, in such profit-oriented sectors.

In the context of twinning instruments, the EU stresses the idea that entering such a project follows a decision taken by the beneficiary country, including political and financial commitment to achieve mandatory results. It is thus a voluntary and action-oriented instrument. As the beneficiary country needs to commit to achieve operational and concrete mandatory goals, it is not a regular technical assistance project. The EC underlines that there are high expectations for the beneficiary country to achieve the reforms (European Commission, 2012a). However, as seen in the context of EMERG, the EU benchmark is the only model to be approximated. This capacity-building instrument is based on the primacy of EU legislation. This can be seen in one of the scopes of the twinning instruments, which is to support ENP countries in harmonising their legislation with the EU and bringing common fundamental principles of ENP

countries in line with those of the EU's (European Commission, 2012a). As such, similar to EMERG, this best-practice sharing project is the result of a voluntary commitment, but it still focuses on the primacy of the EU policies.

In the Jordanian TRC twinning project, reference is made to the authority of the EU model in several stages of the project description. Firstly, the project sets its main purpose as the development of the regulatory framework and operational capacities of the Jordanian Telecommunications sector in line with EU best practices and international standards (European Union and Hashemite Kingdom of Jordan, 2010:2). Later on, one of the reference benchmarks is set on the successful update of the Jordanian regulatory regimes in line with the EU regulatory framework (European Union and Hashemite Kingdom of Jordan, 2010:24). This illustrates the ambiguous relationship between the commitment of the beneficiary country and the spreading of the EU model. The difference with twinning projects is the level of commitment of the beneficiary country to change policies thanks to the support of EU experts. This is different to EMERG, which is mostly a best-practice sharing forum with no mandatory commitment to conduct policy change. This difference is taken into account when discussing the Jordanian cases in the next part (Section 6.3).

The EMERG and twinning examples show that if it is true that economic interests exist when entering such regulatory commitment, this is mostly linked to the nature of the telecommunications sector, which entails large economic potential. Thus, regulatory harmonisation is expected to improve market conditions in the member countries. However, these groupings are voluntary and policy changes only take place following the autonomous decision of the member countries. In twinning instruments, this commitment is more explicit, as the beneficiary country commits to harmonise regulation according to EU NRAs. In such case, the beneficiary NRA decides to follow a regional example in the field, rather than studying different efficiency models, as would be the case in EMERG. It shows a closer focus on the actor, rather than the action, which is better embodied in the imitation mechanism. This is discussed closely in the following section.

6.3 Sector variables analysis

The assumptions linking the sectors to the mechanisms of diffusion (Section 1.5.2) mention that in sectors, such as USO, where there are only limited economic interests and sanction capacity, adopting states are free to implement policy changes with only minimal external pressure. In such cases, learning and imitation may take place. On the contrary in sectors where economic and political interests are high, as is the case in spectrum management, the adopting states are mostly going to engage in policy changes through mechanisms of competition and coercion, where external pressures are higher. The results of this last part of the analysis confirm these assumptions. Table 23 shows the results for the four case studies under review based on the field research data.

Table 23 USO & Spectrum management in Jordan and Morocco

	Sector Environment		Sector Pressures			Policy Sector
	International regulatory channels	Transgovernmental collaboration	Efficiency	Economic Interest	Sanction capacity	
Learning (H₃)	-	+	+	-	-	MO: USO (1)
Imitation (H₄)	-	+	-	-	-	JO: USO (3)
Competition (H₅)	+	+/-	+	+	-	MO: Spectrum (2)
Coercion (H₆)	+	+/-	-	+	+	JO: Spectrum (4)

Notes: Values: +: presence of variable is related to mechanism as expected; -: absence of variable is related to mechanism as expected; +/-: presence or absence of variable whereas it was not expected.

Source: Author.

It illustrates that as expected, USO in Morocco and Jordan follow mechanisms of learning and imitation. USO in Morocco (case study 1) corresponds exactly to the combination of the five variables of learning mechanisms. USO in Jordan (case study 3) corresponds exactly to the imitation mechanisms. As expected as well, spectrum management policies in Morocco and Jordan follow competition and coercion mechanisms in the majority. Spectrum in Morocco

(case study 2) corresponds almost exactly to the mechanisms of competition except for one ambiguity regarding transgovernmental collaboration. Spectrum in Jordan (case study 4) corresponds almost exactly to mechanisms of competition except for one ambiguity regarding the transgovernmental collaboration as well. As such, the presence and absence of variables follow expected paths except in two instances. Two ambiguities exist concerning transgovernmental collaboration in the Moroccan spectrum and Jordanian spectrum. The ambiguous relationship of transgovernmental collaboration in the case of Moroccan USO was decided because of the close relationship between Morocco and France in the field of spectrum management. The ambiguous relationship of transgovernmental collaboration and coercion was decided due to the existence of a telecommunications twinning in Jordan, dealing with the issue of spectrum.

One main observation can be made based on Table 23. It is observed that transgovernmental collaboration takes place in all four case studies. This is logical due to the fact that the thesis focuses on the environment of NRAs and that NRAs are increasingly collaborating with international and regional NRAs, on a bilateral or multilateral basis. This confirms that soft governance has increased in the sector of telecommunication and that transgovernmental channels are growingly used as channels for policy-making in addition or instead of international regulatory forums. For instance, transgovernmental collaboration is not sufficient enough as a variable to distinguish between the four mechanisms of diffusion.

6.3.1 Case study (1) USO in Morocco

In the case of USO in Morocco, it appears that much time, thoughts and resources were deployed in order to embrace an adequate model. Thus, in 2002 a consultancy agency was hired to provide a review of the satisfactory USO models worldwide. Several models were presented from Europe and in particular from Latin America, where funds for universal access and services were renowned across the ITU and the World Bank. It is not until 2004 that a

new system was adopted, which included the creation of a USO governance comity by 2005, chaired by the Moroccan Prime Minister and consisting of a ministerial representation, including the Ministries of telecommunications, interior affairs, finances, territorial planning and national defence. In addition, this comity includes the president of the USO department at the ANRT and the General Director of the ANRT, who has a consultative voice (MINCOM, 2005: art.10(1)).

Regarding the sector environment variables, it appears that a focus has been put on the well-known international model of Latin America. In the interviews several experts mentioned how the Latin American model was solid and had long been supported and advertised by the World Bank. However, these experts underline that the model was seriously considered after being presented by a consultancy firm, which suggests that if the reputation of the World Bank on Latin American cases has supported its reputation, it was not the channel that Morocco chose for getting acquainted with the Latin American policies. Regarding transgovernmental collaboration however it appears that the ANRT has shown enthusiasm to participate in several forums, including the AREGNET, EMERG and FRATEL. The EU model for USO has been presented and discussed in the EMERG. However, the interest for Morocco began to fade out. The EU USO ideas were not adequate to the Moroccan project (Expert MO6, 2014). Finally, during the 2014 EMERG plenary in Jordan, it was agreed not to discuss USO anymore, as it is a case where EU regulation cannot be applied (Expert MO6, 2014). For instance, USO was discussed through transgovernmental channels in the period between 2000 and 2014, but increasingly the Moroccan model developed on its own pace and the EU model became irrelevant. In the time period observed nonetheless, USO has been a subject of discussion in transgovernmental forums.

Regarding the sector pressure variables, the focus on performance and efficiency enhancement is distinct in the Moroccan USO case. First of all, the interviews revealed the inadequacy of the EU USO model. Several experts mention that the issue in Europe was very different to Morocco. It could not be

applied as it was, with a unique focus on fixed telephony. It needed to be adapted. Expert MO5 from the ANRT mentions that between 1998, when the liberalisation of telecommunications in Morocco occurred and 2004, the USO system did not work at all. Hence, this expert states that during this time “[t]he USO were ill-defined and the realisation of the USO was given to the historical operator Maroc Telecom. Straight away Meditel (*the second operator*) said that it was not normal to withdraw money from them to give it to the incumbent operator, which was their main competitor” (Expert MO5, 2014). During the 2004 Moroccan regulatory review and the re-assessment of the USO, expert MO5 mentions that the French case was presented, however France designed a USO provider, France Telecom, and other operators need to compensate this USO provider via a Universal Service Fund (USF), which is not what they decided to apply in Morocco. They decided to stay closer to the market and use calls for tender to allocate projects (Expert MO5, 2014). For instance, the Moroccan USO model developed further away from the EU one.

Economic interests in the sector of USO in Morocco can be observed. Phone companies are involved in the process. There is evidence in the interviews of regular contact between the phone operators and the ANRT directly. However, it also appears from the interviews that the corporate sector does not have a significant say in this sector. Several disagreements were expressed by the corporate sector against the Ministry’s and NRA’s decisions to allocate the USO fund, however there is only little that the corporate sector can do to change such decisions. The expert from Maroc Telecom mentioned that there is an exchange with the ANRT in terms of what USO is and what the USO projects shall be. However, this expert mentions that even if it is possible to exchange ideas with the ANRT, the government orientations are not discussible and the ANRT will implement them in any case (Expert MO11, 2014). Lastly, regarding the sanction capacity variable in USO, as expected, there is no pressure in such case to follow a specific model.

As a conclusion, the Moroccan USO case is characterised particularly by the presence of transgovernmental channels and a focus on performance.

Transgovernmental collaboration appears important when exchanging best practices generally, but increasingly from 2000 to 2014, the EU model became inadequate for the Moroccan case and experts decided during the EMERG 2014 plenary not to discuss this subject anymore. Regarding the pressures in the sector, as expected, there is no existence of a sanctions framework in the field. Regarding economic interests in the field, these are limited as expected as well. The corporate sector in Morocco is, nevertheless, included in policy-making and collaboration exists between the regulators and the phone companies. However, the interviews also show that the corporate input in the USO sector was not taken into consideration in the policy-making process for USO. It seems that the aim of USO policies lies elsewhere in the case of Morocco. In this case, the intention of enhancing performance was obvious. The interviews revealed a lack of efficiency in the French system and the importance of bridging a gap in the sector. The Latin American models were very influential and as a result the Moroccan USO system was created by a comparison of the available possibilities in the field and taking into consideration the domestic background.

In the case of USO in Morocco, it is interesting to observe that the EU was not considered as a leader to follow, as could be expected due to the close political and economic ties in the both areas. In fact, Moroccan policy-makers did include this example in the elaboration of their strategy, but they did not feel the need to copy the European countries in any way. On the contrary they distanced themselves from the model. The Moroccan interviews illustrate the will of Morocco to become its own leader in the field and not to become attached to any formal example. Experts emphasised the development of Morocco as a leader for other countries, in particular for African countries. For instance, an expert of the ANRT mentions that the Moroccan USO project is a success and the African countries come to Morocco to replicate the model (Expert MO3, 2014). Expert MO5 also mentions that the Moroccan USO model “creates appetite among a certain number of countries” (Expert MO5, 2014). In the context of the mechanisms of diffusion framework, the USO model in Morocco has transited through transgovernmental channels with the aim to

increase efficiency of its model. This is a case for policy adoption following the mechanisms of learning.

6.3.2 Case study (3) USO in Jordan

In Jordan, with regards to both USO and spectrum management provisions, it is observed that much attention is drawn towards the EU, as a key benchmark, due to its technical expertise and market dominance. USO provisions in Jordan date back to 1995 and designate the incumbent fixed operator, JTC, part of the Orange group as the universal service provider at a national level. Functional internet access is also included in the USO regulation. A review of USO provisions was done in 2006 and the Telecommunications Regulatory Commission (TRC) published the Information Memorandum on USO. Discussions on the review of the system have taken place since then and a communication in 2014 confirmed the fact that neither mobile telephony nor broadband services shall be included in USO. This position is actually exactly the same as the EU on the subject, where USO is based on a model of service supplying that is based on the fixed line. USO does not include broadband services or mobile services. The focus on fixed telephony and functional internet was reconfirmed in the 2011 E-services Communication (European Commission, 2011). In this case, the EU and Jordanian model are very similar.

Regarding the sector environment variables, Jordan, like Morocco, is part of the ITU and the WTO. Jordan has been a good student in many ways regarding the implementation and changes of policies according to international standards. In the case of USO, however, no information was given as to how much international bodies have had an impact on policy making in the field of USO. Jordan is also part of various international and regional bodies and is very involved in the EMERG. Nevertheless, the most important channel of policy-making in the USO field for Jordan is to be found in the relationship with the EU. One of the key milestones is the conclusion of the twinning project between the TRC and the Italian, Spanish and French regulatory authorities. Jordan committed to implement policies following the European NRAs model, with a

financial support of EUR 1.4 million from the EU (European Union and Hashemite Kingdom of Jordan, 2010:19). The call for proposals was launched in June 2010. The start of the project followed a year later with the completion planned for December 2013.

The twinning project aims at supporting “the development of the Jordanian Telecom sector in regards to telecom market, competitive environment and quality and quantity of telecom services” (European Union and Hashemite Kingdom of Jordan, 2010:2). It encompasses the objective to achieve a “regulatory regime compatible with the EU regulatory framework, that includes questions such as that of universal services and spectrum management (European Union and Hashemite Kingdom of Jordan, 2010:7). Two of the agenda items included the definition of universal service and spectrum management techniques (European Union and Hashemite Kingdom of Jordan, 2010). The fact that twinning projects are financed by the EU and are conducted by EU NRAs may show a certain level of constraints to achieve EU-oriented goals. However, twinning projects are based on the commitment from the recipient country. They do not represent a constraint, but a voluntary engagement by Jordan to engage in policy changes following a specific model.

Regarding the sector pressure variables in Jordan, it is the contrary to Morocco. The focus is not on performance but on the leadership of the followed model. Jordan is a typical case showing that USO based on fixed line and functional internet is not adequate, as the fixed telephony is losing market shares and households are increasingly relying on mobile services only (ITU, 2014). Several experts in Jordan mention that USO policies are ill-suited. Expert JO8 from the TRC mentions that the Jordanian USO system is actually too old (Expert JO8, 2014). In Jordan the question arises why fixed telephony is still the focus. Expert JO8 of the TRC mentions that even if the fixed infrastructure covers the whole country, it is not used in many areas, because of the preference of using mobile services. However, the fact that fixed telephony is getting less and less popular in Jordan, represents a reason for certain experts of the TRC not to change anything to the policy at the moment (Expert JO8,

2014). The ill-suited policy has in fact not much implication in the telecommunications landscape of Jordan.

The obsolescence of the USO system in Jordan is however not accepted by the corporate sector who wishes for changes. An expert from the Orange group, of which the USO provider is part, mentions that in Jordan a USF does not exist, which means that all USO costs are borne by Orange fixed. This expert deems the situation unsatisfactory and wishes for the imitation of other models, notably creating a USF or organising tenders (Expert JO10, 2014). The other two mobile phone companies in Jordan, however, rather than supporting the creation of a USF or tenders, advocate for the cancellation of USO policies. Expert JO11 of Umniah, one of the main Jordanian mobile operators argues that as the fixed telephony is decreasing and not used in its whole capacity, no USO policy is actually *needed* (Expert JO11, 2014). Another expert from the other phone company, Zain, mentions that USO in Jordan is old fashioned. It should be cancelled and overlooked (Expert JO9, 2014). The fact that competition in mobile services in Jordan is sufficient to provide telecommunications services to the whole population is also underlined by the Ministry (Expert JO1, 2014). However, so far, USO policies have remained as they are despite their unsuitability to the domestic context. The position of the corporate sector is clearly critical towards the USO policy in Jordan. However, it does not impact the policy-making process in the TRC. This confirms, as in Morocco, that the corporate sector does not have much regulatory weight. Lastly, as for Morocco, no variable of sanction capacity was observed.

In the case of USO in Jordan, there is no proof that any form of sanctions is taking place behind the adoption of EU policies in Jordan. The twinning project executed with regulatory experts from Italy, France and Spain corroborates this point. It confirms a will from the Jordanian regulatory system to approximate the European regulatory system, without pressure from the EU. For instance, the Jordanian cases supports the argument that twinning projects with EU NRAs, in the case of Southern Mediterranean countries, does not aim at a strict transposition of EU regulation and neither does it aim at a potential EU

accession. Twinning projects in such cases, represent an exercise of capacity-building (European Commission, 2012a:VI). In the Jordan TRC twinning for instance, the 2012 twinning evaluation report states that “it must be highlighted that transferring the EU Acquis is not part of Jordan’s objectives. Therefore mandatory results are very often simply considered ordinary results or classical technical assistance outputs” (European Commission, 2012a:24). Mediterranean countries do commit to transfer a selection of EU policy practices in the framework of twinning project. However those are selected according to their own objectives.

To conclude, this twinning project confirms a commitment from Jordan to approximate the EU regulatory framework through an institutionalised channel. In this case study, policy adoption is mostly based on the actor that is perceived as a leader in the area. It appears that sanction capacity has no role in policy adoption in this case. Finally, economic interests in Jordan are ambiguous. In effect, the provider of the fixed line in Jordan is owned by the same company as the one in France. In both cases, Orange fixed is the main shareholder of the company providing USO services. In Jordan, however, the USO provider does not enjoy compensation from USF, as is the case in France (ARCEP, 2015). The French NRA was also part of the twinning project taking place from 2011 to 2013, which did not challenge the USO model based on the fixed line. It suggests that even if other mobile phone companies may not have a remarkable say in policy-making in this sector, the parallelism with Orange in France confirms Jordan’s commitment to satisfy European interests. It suggests a link between a focus on a specific leader and economic interests. In the context of the mechanisms of the diffusion framework, the USO model in Jordan has transited through transgovernmental channels with the aim of following leaders in the field. This is a case for policy adoption following the mechanisms of imitation.

6.3.3 Case study (2) Spectrum management in Morocco

In the case of spectrum management in Morocco, it appears that attention is put into creating conditions to develop the market. Operators may use spectrum according to technological neutrality and regulators pay notable attention to stay in line with international regulation on the matter, allowing for a better regulatory context for investors. In this case, it is argued that economic competition mechanisms are taking place in the majority and are leading to a convergence of the models. This confirms what Kettani and El Mahdi argue regarding ICT policy in Morocco. They mention that ICT are also viewed as a path towards achieving a 'historical leap' via the development of an ICT industry of national merit. They argue that "[t]his vision is adequately covered in the phrase *le rattrapage technologique et économique*²⁸, which highlights the country's quest for a technological and economic leap" (Kettani and El Mahdi, 2011:174). Spectrum management and USO in Morocco reveal an apparent commitment by policy-makers in the country to innovate and implement sophisticated policies.

Regarding the environment variables, the peculiarity of spectrum is that each country needs to agree with its neighbours to avoid interferences. Moroccan experts mentioned several times that most contacts take place with countries, which are directly neighbouring Morocco. This is due to coordination needs so to avoid potentially harmful interferences. However, these meetings are mostly limited to coordination contact and no further meetings are organised to discuss such issues. As expected, the spectrum management is directly linked to a remarkable international structure and Morocco accords to what the ITU demands in terms of spectrum regulation. It appears very important for the country to show the level of sophistication of its experts at the international level. This is also illustrated by the DTTB which took place in Morocco in July 2015. Expert MO10 from HACA underlines the importance for Morocco to

²⁸ Translation: *The technological and economic catch-up*

respect its GE06 engagement in front of the international community (Expert MO10, 2014). Morocco is one of the only countries of the MENA region to have respected the DTTB UHF switch-off in 2015.

Furthermore, Morocco is part of the Radio Regulation Board (RRB), which is a committee of the ITU²⁹. An expert of the ANRT argues that the RRB members represent their country however, the elected members are chosen for their competences. Their position must be neutral and independent. In any case of conflict of interest, the RRB members must abstain from giving an opinion (Expert MO7, 2014). According to an expert of the Ministry of e-commerce, the fact that Morocco is part of the RRB has a double value. Firstly, the ministry needed to approve the election. Hence this represents a sovereign choice from Morocco to be part of this committee. Secondly, this nomination acknowledges competences and in particular, gives the possibility of accessing further competences. For this expert, being part of this comity allows the possibility of gaining very valuable international experience in order to solve potential future issues of Morocco regarding spectrum management (Expert MO1, 2014). This shows again the importance given to be part of the worldwide community in ICT sophistication.

The determination of the ANRT and of the Ministry to be part of the RRB shows commitment to participate at the international regulatory level as a peer to other leading countries. Concerning transgovernmental cooperation in the case of Morocco, the EMERG appeared limited at bringing any practical recommendations, as the subject is too technical (Expert MO5, 2014). For instance, Morocco works with countries of the European Union through other channels. In particular, the relationship with France is regular and

²⁹ The RRB consists of 12 members who give advices on spectrum related issues. They are elected by the Plenipotentiary Conference for a 4-year mandate and meet up to four times a year. The RRB receives a mandate every time there is a conflict or a difficulty in interpreting certain rules. They approve rules of procedure and provide advice as requested by the various Radio communications bodies (ITU. 2015b. *Radio Regulations Board (RRB)* [Online]. Available: <http://www.itu.int/en/ITU-R/conferences/RRB/Pages/default.aspx> [Accessed December 7 2015].)

institutionalised and they exchange views on the sector through a bilateral partnership. An ANRT expert mentions that “[w]ith France, we have a partnership agreement with the ANFR. It allows for the exchange of expertise. It goes beyond the bilateral framework. We organise workshops together for French speaking countries, which take place in France or in Morocco” (Expert MO7, 2014). He mentions that France organises meetings in preparation for the WRC with French speaking countries where positions from the different areas are presented. France presents the opinions of France and of the EU member countries, while Morocco presents the opinions for Morocco and for Arabic speaking countries and French-speaking African countries (Expert MO7, 2014). Hence, in addition to the well-established regulatory context of the ITU, it appears that Morocco is close to its neighbours due to the necessities of the cross-border aspect of frequencies. In addition, a special relationship with France on this issue is confirmed. In all cases, Morocco underlines its role as an equal partner in the regulatory process and not as a follower.

Regarding the sector pressure variables, as mentioned above, Morocco shows a political will to perform at the international level. In several instances, the experts mention how close Morocco is to the international community. This is apparent at the ITU level and with the role of Morocco as a key policy adviser in the RRB. It is also distinct in its relationship with France, where both countries organise workshops as equals and prepare positions to the WRC jointly. Regarding the economic interest variables, there is a visible role of the corporate sector in the field of spectrum. This is notably observable in terms of standards. For instance, there is a direct attention drawn towards the EU due to similar use of technological standards. Several experts mentioned that currently, being part of Region 1 together with the EU, has often led Morocco to adopt European technological norms and practices. One of the experts of the ANRT mentions that “[t]he EU develops norms in relation to this (*Region 1*) spectrum area, Morocco as a member of this region, needs to take them into account” (Expert MO7, 2014). This has been the case with technologies bound to the Euro-Mediterranean geographical space, such as GSM.

Economic interests are present in the spectrum management sector in Morocco. The link between France and Morocco is confirmed concerning multinational corporations as well. There is notably a distinguishable presence of French corporations in the telecommunications sector in Morocco. French companies own or have owned major shares in two of the mobile phone companies in Morocco. This is the case of the French company Orange, which owns 40% of the Orange group in Morocco, after a change of ownership in 2010 (Meditel, 2010:24). Furthermore, Vivendi, a French consortium, used to own 53% of the shares of Maroc Telecom (IAM) until the sale of the shares in 2013 to Etisalat (IAM, 2014:32, IAM, 2015:32). The presence of French companies in Morocco and the close link between Morocco and France in the coordination of spectrum is revealing and confirms the idea that leadership and economic interests are more closely intricate than expected. Finally, with regards to the sanction variable, there is no mention in the interviews of forms of sanctions or punishment in the framework of the ITU in this sector.

To conclude, in the case of spectrum management in Morocco, policies are very up-to-date with the newest management techniques. Morocco also proceeded to the digital switch-over in July 2015, as one of the only countries in the region to do so. Morocco is particularly clear in showing its level of sophistication in the field and its membership to the RRB and the switching off of its digital signal as required by the GE06 has been an example of this high level policy making capacity. In the case of spectrum in Morocco, international channels are important, notably the ITU. However, the interviews suggested the presence of transgovernmental channels as well, due to a close collaboration with the French NRA. Regarding pressures, economic interests in the field are visible and they actually mirror the regulatory connection between Morocco and France. In the context of the mechanisms of the diffusion framework, spectrum in Morocco is marked by international channels and a close attention to reach efficiency and follow the corporate sector. This suggests that mechanisms of competition are at play in this context. However, an ambiguous relationship exists with transgovernmental channels. In fact, this can be explained by the

characteristics of the spectrum sector which require regular coordination between neighbours.

6.3.4 Case study (4) Spectrum management in Jordan

Regarding spectrum management in Jordan, it is mentioned in policies that the TRC shall adopt wherever possible advanced spectrum management principles, including a technology and service neutral approach to spectrum; spectrum reuse; and spectrum sharing (MOICT, 2007:art.68(f)). One of the heads of the TRC mentions that Jordan is fully harmonised with the ITU directives. He mentions that Jordan is in line with the ITU requirements and neighbouring countries, its policies are generally up-to-date (Expert JO6, 2014). Expert JO6 mentions that “[w]e participate in all activities related to the spectrum, we do believe that we have a very efficient spectrum management in Jordan” (Expert JO6, 2014). In addition, spectrum management tools were part of the telecommunications twinning project that was done with the EU. In this sector, as in USO, a will to approximate to the EU was expressed by Jordanian NRAs. However, Jordan has not yet proceeded to the digital switch-over. As of July 2015, it had not yet switched off its terrestrial signals. This is an ambiguous issue in Jordan, as the spectrum is not crowded, which does not create pressure for a change of policy.

Regarding the sector environment variables, similarly to Morocco, one of the heads of the TRC mentions that spectrum management is not a national issue and that the ITU plays a very important role in this case (Expert JO4, 2014). This expert mentions that “[t]he planning is in line with the ITU and in coordination with the neighbouring countries” (Expert JO4, 2014). This expert mentions that Jordan has now acquired “modern spectrum management tool” and Jordanian policy includes the questions of reframing and white spaces (Expert JO4, 2014). Hence, Jordan is aware of new management techniques and has included them in the policies, at least informatively, since technically the Jordanian experts mentioned the difficulty for the country to apply new regulatory management techniques, as long as the digital switch-over has not

been concluded allowing for the liberation of more bandwidth (Expert JO5, 2014). In terms of transgovernmental cooperation, EMERG, as was the case for Morocco, did indeed discuss questions of spectrum management but was not key to the implementation of new management practices. The TRC twinning however, included the enhancement of spectrum management practices and aimed at achieving a regulatory regime compatible with the EU regulatory framework in the field of spectrum management techniques (European Union and Hashemite Kingdom of Jordan, 2010:7). It is observed that in the case of Jordan, transgovernmental collaboration has had an impact in policy change as well, due to the signature of the twinning project.

Regarding the sector pressure variables in Jordan, it appears that enhancing performances is not the main driver of the policy changes. Several experts of the corporate sector deplore the lack of efficiency of the regulatory implementation in favor of higher revenues for the government. However, Jordan is very involved in the ITU and very close to the work of the EU in the field of spectrum management, particularly following the telecommunications twinning signed with several EU NRAs. Regarding economic interests in Jordan, the corporate sector has had recently a noticeable weight in the process of government auctions. For instance, in 2014, the government made a tender for new spectrum bands, as they wanted to welcome a new entrant in the field. However, expert JO9 of Zain mentions that the existing operators were against this decision and lobbied in order for the available spectrum to be offered to existing operators to expand and upgrade their offer (Expert JO9, 2014). As a result, the government received only two offers that were both disqualified.

Expert JO9 mentions that the failure of the auction and of the entrance of a fourth entrant in the field was a success, even if they had to go through the whole process of bidding until reverting to the same situation as before (Expert JO9, 2014). The weight of the corporate sector and its influence in the TRC decisions are also embodied by expert JO9 of Zain who mentions that concerning the TRC twinning, the corporate sector was often consulted. He

mentions that “[t]he TRC consults us and publishes the answers to the website and then discuss the meeting and finally come with a draft instruction and final instruction” (Expert JO9, 2014). In Jordan, the corporate sector is close to the TRC for spectrum related subjects. Issues, however, arise regarding the implementation of the decisions. Expert JO9 of Zain mentions that “[t]he only problem is at the level of implementation of the operators’ feedback, which is minimum” (Expert JO9, 2014). This suggests that even if the corporate sector is very well-integrated in the policy-making process of spectrum management, the outcome does not always lift up the expectations of the corporate sector.

Finally, regarding sanction capacity, the Jordanian case shows that Jordan has only limited leeway to implement its own policies. Several experts mentioned power struggles within the ITU. The expert from Umniah describes the relationship with the EU as forced. He mentions that “[w]e are forced to do in many cases, what the EU does” (Expert JO11, 2014). For this expert, this is not always a bad thing if it means that the Jordanian government’s spectrum regulation of spectrum gets closer to the rules of the market, as it is in the EU (Expert JO11, 2014). Expert JO5 from the TRC mentions that Jordan affiliates itself with the Arab countries in the ITU and adds “[w]e are not a group producing technology, we are using it. So we are not influencing. We can vote, but at the end we ally with the EU” (Expert JO5, 2014). He further states that in situations where the EU and Arab countries differ in the ITU, it is not always possible to implement the interest of developing countries. Some major players in the EU are a lot stronger (Expert JO5, 2014). This gives a notion of who do the policies benefit at the end, which becomes a case of coercive incentives, as it benefits the diffuser country, rather than the adopting country. This suggests that in the case of Jordan, subtle power relationship within the ITU shed light on asymmetrical relationships, where Jordan needs to apply what has been decided internationally.

To conclude, in the case of spectrum management, Jordan is up-to-date with its policies. It is close to the ITU regulation and again has a discernible interest towards benchmarking with the EU. One of the interesting but contentious

points of the Jordanian spectrum policy is that in Jordan, there is no pressure on spectrum. In fact, spectrum scarcity is not an issue in Jordan. Expert JO6 mentions that in the field of spectrum [t]here is no shortage, it is always ready and available” (Expert JO6, 2014). Confirming this position, Expert JO9 of Zain, one of the three mobile phone providers of Jordan mentions “[w]e discuss reframing, white spaces, digital dividend, spectrum trading. Luckily in Jordan, we do not have shortage, and this is not really the problem” (Expert JO9, 2014). The issue of spectrum shortage is very different to the situation in Europe, where DTTB represents a clear source of available spectrum to be freed. In Jordan, the DTTB, for instance, does not carry the same value.

It appears that Jordan adopts policies regarding white spaces or digital dividend, only because it is something being done in the ITU or in the EU, but it is not really needed domestically. The expert interviews have shown that Jordan is not a state directing policy making within the ITU (Expert JO9, 2014). In several occasions, experts have underlined how they need to follow the leaders in the field, particularly the EU, as they share similar band frequency. In the context of the mechanisms of diffusion framework, spectrum in Jordan is mostly regulated by the international channels and also transgovernmental, following the twinning project in the field. It is also a sector where efficiency is not as important as the need to follow a leader, in this case the EU. Economic interests are discernible in this case, as was the case in spectrum management in Morocco. Finally, sanction capacity was observed in the interviews, where experts deplored the fact that Jordan needs to follow other regulators in the field. This is notably the case within the ITU, where subtler games of powers among members shed light on asymmetrical power relationship. This suggests that the spectrum sector in Jordan mostly follows coercion mechanisms, however, this is not hard coercion, as no formal risk of sanctions were mentioned by Jordanian experts. It is a more subtle form of coercion based on alliance and asymmetrical regulatory powers.

6.4 Conclusion

This chapter answered the second research subquestion how does a state adopt a policy that originates from elsewhere. The chapter was divided into two sections to assess and analyse the mechanisms of the diffusion framework. The first section aimed at providing additional information to understand the framework propositions of Section 2.4.2 in an appropriate context. The first focus was on the role of economic interests in the telecommunications sector, corresponding to the first framework proposition. This part showed the role of telecommunications multinational corporations in Morocco and Jordan and shed light on the presence of EU and Gulf companies in the region. The second focus addressed the question of efficiency and leadership, corresponding to the second framework proposition. An emphasis was put on the role of technology in the sector and the freedom to focus on certain leaders and policies freely. The third focus discussed sanction capacity in the telecommunications sector, corresponding to the third framework proposition. It appears that in the field, subtler forms of power relationship exist, rather than formal sanctions imposition. However, an interesting trend is the emergence of the Southern States as key actors in the field, illustrated by their position in WRC-12 against the EU member states. Finally, the last focus was on the role of transgovernmental framework in the field, their focus on economic profits and their potential for coercion, corresponding to the last framework proposition. It was observed that economic interests are central to the existence of such frameworks, particularly to enhance harmonisation and standardisation among partners. However, no mandatory commitments are expected in the field, contrasting with international organisations.

The second section of this chapter gave the analysis of the four case studies, USO and spectrum management in Morocco and Jordan. As expected by the assumptions of Section 1.5.2, the two cases of USO correspond to mechanisms of learning and imitation and the two cases of spectrum management correspond to the mechanisms of competition and coercion. The four cases are used to discuss the four hypotheses set regarding the mechanisms of diffusion.

The first case study, USO in Morocco (case study 1) corresponds completely to the combination of the five learning mechanisms variables. The hypothesis (H₃ Learning) stating that learning mechanisms occur in a context exempt of international regulatory channels, economic interest and sanction capacity, where transgovernmental collaboration is used with the objective of efficiency enhancement, was confirmed. The second case study, USO in Jordan (case study 3) also corresponds completely to the combination of the five imitation mechanisms variables. The hypothesis (H₄ Imitation) stating that imitation mechanisms occur in a context exempt of international regulatory channels, economic interest and sanction capacity, where transgovernmental collaboration is used with the objective to reach conformity with the perceived leaders in the field (absence of efficiency variable), is confirmed.

The third case study, spectrum management in Morocco (case study 2) corresponds almost completely to the combination of the five competition mechanisms variables. The only ambiguity concerns transgovernmental collaboration. In fact, it appears that in the case of spectrum management in USO, close collaboration between Morocco and France exists following a MoA in the field. This collaboration is institutionalised and used to prepare joint propositions for the WRC conferences. It shows as such that both international and transgovernmental channels are used to develop spectrum policy decisions in the field. Based on the observed ambiguity regarding the use of transgovernmental channels in the field, the hypothesis (H₅ Competition) can be adapted. It is changed as follows, economic competition mechanisms occur in a context exempt of sanction capacity, where international regulatory channels and transgovernmental ones, are used with the objective to satisfy economic interests and reach efficiency.

The fourth case study, spectrum management in Jordan (case study 4) presents a similar result to the case study 2. It corresponds almost completely to the combination of the five coercion mechanisms variables. The only ambiguity concerns, transgovernmental collaboration. It appears that in the case of spectrum management in Jordan, transgovernmental channels have

been used in the form of the twinning project with the EU so to discuss policy changes in the spectrum area. In this case, it shows that both international and transgovernmental channels have been used to conduct policy change. This case also presents interesting findings regarding coercion. As expected, coercion in the telecommunications sector is not formal and obvious. On the contrary subtler forms of asymmetrical power take place. In such cases, alliances and the power to stand against the leaders in the field may shed light on sanction capacity of certain actors. In this case, sanctions must not be understood in terms of effective and visible sanctions, but in terms of game of power and alliances taking place in the international realm. Based on the observed ambiguity regarding the use of transgovernmental channels in the field, the hypothesis (H₆ Coercion) can be adapted. It is changed as follows, coercion mechanisms occur in the context of economic interest, leadership and sanction capacity, where international and transgovernmental channels are used and possess the capacity to impose sanctions.

Based on the results of the empirical research, one major observation can be drawn. The transgovernmental collaboration variable is not adequate to disentangle mechanisms of diffusion. Two comments can be ascertained. Firstly, the field research supported the idea that soft governance and particularly, transnational soft governance, is central to the telecommunications sector. The empirical research shows that several types of transgovernmental collaboration, such as transgovernmental regulatory groups (EMERG) and bilateral and multilateral regulatory collaboration (twinning and MoA), are now completely institutionalised in the field. They complement or substitute international channels as is shown in the four case studies. Secondly, if the transgovernmental variable shall still be used in such a framework, then an eventual distinction may be made between transgovernmental regulatory groups, which are usually based on a horizontal and balanced representation of power and bilateral and multinational regulatory collaboration, which may reveal relationships of dependency between two or more partners.

The results of this last empirical part shed light on the four propositions mentioned in section 2.4.2. Firstly, the proposition that competition and coercion mechanisms occur principally in situations where economic interests and international channels exist, was confirmed. Secondly, the proposition that efficiency is linked to learning and competition and leadership to imitation and coercion, was confirmed as well. Thirdly, the proposition that sanction capacity can only be imposed by international channels was partially confirmed as transgovernmental channels are used in combination to international channels nowadays. This renders a distinct demarcation of balance of powers more difficult to observe. Finally, the proposition that transgovernmental frameworks lead mostly to learning and imitation mechanisms was not confirmed. The empirical results show that in contemporary policy-making the telecommunications sector, transgovernmental frameworks are used in combination or in replacement to international channels. This variable is not useful to disentangle mechanisms of diffusion.

One of the main empirical findings of this chapter is the interest of both Jordan and Morocco to be part of the international community. Both countries show in different ways the importance of signalling to worldwide partners their commitment to improve the sector. This corresponds to the concept proposed in the literature of international attention. Several authors discussing policy-making refer to the fact that the adoption of a policy may be aimed at improving the reputation of a country at the international level. This takes place when the adoption of certain policies gives signals to the international community of both the government's interest to improve practices and be a more involved part of the international community. Weyland argues that normative appeal and the quest for international legitimacy prompt emulation of foreign innovation. He argues that to "look good in the eyes of global public opinion, decision-makers want to be modern and up-to-date and therefore imitate new policy models. They are determined to avoid the stigma of being backward and therefore try hard to keep up with the latest trend" (2006:4). As such, the adoption of certain policies may become instrumental, as a lock-in reform strategy to obtain non-economic profits, or at least not direct economic profits (Mattli, 1999). It might

show a real will from the partner countries towards implementing transnational regulatory practices (DiMaggio and Powell, 1983:151). Policy diffusion becomes a tool to show commitment in implementing and improving regulation.

The role of USO in terms of international attention has been observed in this thesis. One of the Experts of Cullen mentions that USO policies carry a positive image in the eyes of the international community. He mentions that the examples given by USO policy to protect citizens carry legitimacy and spread good reputation (Expert EU20, 2014). This was confirmed in the context of USO in Jordan and Morocco. The interesting nuance between both countries is the different approaches that they take towards policy change. Jordan is committed to the EU model and shows its good will by implementing EU policies in the field, even if they are not always suitable to the Jordanian market. Morocco, however, shows another strategy. It proves to the worldwide community that it is committed to telecommunications innovation by proposing advanced practices that are leapfrogging the EU models. The concept of leapfrogging policy-making refers to cases where policies emerging in the global South supersede international benchmarks. Policy diffusion does not refer to such cases in particular. However, several authors of policy diffusion remind us of the importance not to conclude that convergence is the only outcome of policy diffusion (Ladi, 2011, Knill, 2001, Beckert, 2010). Divergence may as well take place as a result of policy diffusion. Leapfrogging policy-making represents such a case of divergence, as the adopted regulatory policies go beyond the international benchmarks in the field.

Finally, this empirical chapter confirms the emergence of new regulatory flows beyond the traditional North-South and North-North flows as described by Bauer (2010b:9) (Section 1.6). The North-North dimension illustrates regulatory changes where the US and other Northern countries embarked on policies of privatisation and liberalisation. It was soon paralleled by a North-South flow, where industrialised countries imposed processes of reform on Southern countries, particularly through the demands of lenders such as the World Bank

(Bauer, 2010b:9). Both the flows were confirmed in the historical contextualisation of the second empirical chapter (Section 5.2).

This thesis however confirms the emergence of the two following flows. A regional South-South flow was undeniably confirmed in the case of USO in Morocco. In fact, the emergence of Latin American countries as key providers in regulatory reforms already became a focus of authors in the late 1990s. For instance, Galal mentions that a handful of developing countries, such as Chile, Mexico, Argentina and Venezuela started relying on private ownership, competition and incentive regulation of the monopolistic segment of telecom markets, already in the mid-1980s, at similar times or even sometimes prior to EU member states in the field (1999:133). Gantzoglanis also mentions that the trend of privatisation of state-owned telecommunication providers started with Latin American countries, before being taken over by Asian countries and finally African ones. He mentions that Morocco, Egypt, Lebanon, Jordan and Mauritania joined the trend only later in the late 1990s (2003:81). The use of Latin American policies in the telecommunications sector was shown in the case of USO in Morocco and confirms South-South trends. Finally, the last flow of South-North regulatory process is also emerging, even if less evidently. Several experts of the EC, for instance underlined how Nigeria or Kenya have directly caught-up with advanced technologies superseding the EU in certain fields (EU6, 2014). This shows that the Global South is proposing technological solutions that may well become the new centres for innovations.

7 CHAPTER 7 – Conclusion

7.1 Introduction

Several main theoretical contributions to the literature of policy diffusion and telecommunications policy diffusion were given. The thesis contributed to the phenomenon of policy adoption and specifically to the concept of mechanisms of diffusion. This thesis elaborated on a framework based on four state variables and five sector variables. The state variables shed light on the likelihood of policy adoption. The presence or absence of sector variables infers which of the different mechanisms of diffusion is at play. This is theoretically innovative, as it had not been experimented systematically before. In addition, empirical findings regarding telecommunications in Jordan, Morocco and Egypt completed the thesis. It presented the selection of two subfields of telecommunications, USO and Spectrum management in three MENA countries, Morocco, Jordan and Egypt. This choice of cases contributes adequately to empirical findings. Firstly, USO and spectrum management are never studied jointly, despite their joint objectives of connecting the citizens to ICT. Secondly, telecommunications in MENA countries are only rarely studied, as the focus in such sectors is rather on the EU members or major players in the field such as the US or China. Lastly, these three countries have not been compared in this field, which represents an additional empirical contribution.

This thesis answered one main research question: does policy adoption take place in Egypt, Jordan and Morocco in the telecommunications sector? It focused on two additional elements, in case the first question was answered positively. That is, under which conditions do countries adopt a policy that originated externally and how does this adoption take place. The main focus of this thesis was to contribute to policy diffusion theories, particularly regarding what concerns the observation and systematisation of mechanisms of diffusion. The thesis was built under the premise that the dependent variable is the adoption of policies according to four mechanisms of diffusion; learning, imitation, economic competition and coercion. Before proceeding to the analysis

of the data, and being able to answer the second and third research foci, the first and main research question needed to be discussed. As such the adoption of policies in Morocco, Jordan and Egypt in the telecommunications sector was the aim of Chapter 4. This chapter was tied to methodological considerations. It used both product and process to identify policy observation. This was done using two management ideas to trace the diffusion of policies.

Following Chapter 4 establishing the variation across six case studies, Chapter 5, presented a set of four state variables. They revealed the likelihood of policy adoption in the countries under study. Four of them were defined, based on the premise that policy adoption exists due to the necessity of adopting countries to look abroad for models. This is called the vulnerability of a state to external forces and was defined as a combination of four variables relating to different levels of market and governance openness and market and political interconnectedness of the adopting countries; governance openness, market openness, political interconnectedness and market interconnectedness. This chapter confirmed the findings of Chapter 4. It also confirmed that in Egyptian USO and spectrum management, diffusion was less observed than for both Morocco and Jordan. In Chapter 6, five sector variables were discussed to disentangle the four traditional mechanisms of diffusion discussed in this thesis, learning, imitation, economic competition and coercion. Four different combinations of the five variables shed light on what mechanisms had been at play in both Morocco and Jordan's USO and spectrum management policies.

This conclusive chapter reviews the contribution and findings of the above mentioned chapters. The first section presents the main findings of the thesis. It focuses mostly on the literature of policy adoption and telecommunications diffusion literature. The conclusive discussions of all three empirical chapters are discussed in this section. The first part of this section reviews the methodological framework set to discuss the observation of policy diffusion. The second part addresses the conditions leading to policy adoption, arguing that state variables are adequate to define the likelihood of a policy adoption. The third part discusses the role of sector variables to infer which diffusion

mechanisms have been at play during the adoption. The second section of this chapter presents the limitations to these findings. Limitations concerning the theories and framework are the key focus. Methodological limitations will not be reiterated as they were explained in detail in the corresponding section of this research thesis (Sections 5.3 and 6.3). Finally, a section on generalisability is presented. It proposes sectors and areas of research for further study.

7.2 Main findings and contribution

Several key findings have been given in this project. The main ones relate to the theoretical and empirical contributions. This thesis defined two different frameworks that contribute to policy diffusion literature. The first one predicted that state variables shed light on the likelihood of policy adoption. The second one defined that different combinations of sector variables infer the mechanisms of diffusion at play during the process of adoption. The likelihood of policy adoption was the object of chapter 5. The focus on the mechanisms of diffusion was the object of chapter 6. Additionally, chapter 4 presented methodological tools to observe policy adoption across six cases. Each of the findings is reiterated below.

7.2.1 Observing policy adoption (Chapter 4)

The aim of the first empirical chapter was to present the research question: does policy adoption take place in the telecommunications sector in Jordan, Morocco and Egypt? The main task of this chapter was to define an adequate methodological framework to analyse the gathered qualitative data. This chapter hypothesised that policy diffusion could be observed in all six cases of this thesis. This is notably due to the fact that the telecommunications sector is a cross-border sector in nature and that looking abroad for examples to follow is part of the daily routine of administrations. It was not straightforward, however, how to engage with the observation of policy diffusion both systematically and objectively. The aim of the chapter was to build an integrated framework to link the theory of policy diffusion to the empirical analysis. In this chapter, different

steps were followed to develop the methodological framework and observe policy diffusion. In this thesis, based on small-n cases and using almost uniquely qualitative methods, a good knowledge of the sector under study was necessary before conducting interviews. The knowledge of the developments in the policy area was required to identify the most recent trends in the field. Defining the current subjects under discussion in such policy areas was essential to both being able to discuss of technicalities with experts, but also to trace the diffusion of ideas in the field. The identification of two recent policy ideas, central to the sector, was key to observing the development of the policies in various states.

The selection of these management ideas can be difficult and sometimes misleading. As such two different cases are desirable to level the developments of the policy. Once policy ideas have been identified, it is then possible to systematically build the interviews with experts in the field. It gives practical and existing technical contextualisation to the experts of what the researcher means by policy diffusion, which is a term used solely in academic work and less in hands-on fields. It is also suitable to identify management trends before comparing different laws and policies, in order not to lose the focus in the amount of publications released by the concerned administrations and to be able to directly focus on specific articles.

The last step of the methodological framework was to observe policy diffusion using two concepts, the product and process. The product means that it is necessary that two different laws or policies are similar, even partially, across two different state jurisdictions. The process means that that there is evidence of cross-country collaboration and exchange across administrations. Both product and process are necessary to conclude that policy diffusion has taken place. In this thesis, two management ideas for each of the two sub-sectors were identified and tested in terms of product and process in all three countries under study. Table 20 shows the overview version of the result of chapter 4 (firstly shown in Section 4.4, page 147). A longer version is available in Section 4.3 presenting the detailed results of this work (Table 19, page 119).

Table 20 Results of the observation of policy diffusion (overview)

	Case Study (1) Morocco: USO	Case Study (2) Morocco: Spectrum	Case Study (3) Jordan: USO	Case Study (4) Jordan: Spectrum	Case Study (5) Egypt: USO	Case Study (6) Egypt Spectrum
Idea 1	+	0	+	0	0	-
Idea 2	+	0	+	0	-	-
TOTAL	+	0	+	0	-	-

Notes: Values: +: high policy adoption; 0: medium policy adoption; -: low policy adoption; na: Not Applicable.

Source: Author.

Table 20 gave the main findings of this chapter. It was concluded that USO in Morocco and in Jordan presented characteristics of high policy diffusion. Spectrum management in Morocco and Jordan presented medium policy diffusion and lastly, USO and spectrum management in Egypt resulted in low policy adoption. Several observations were given based on this table. Firstly it showed that in both policy sectors Egypt did not score as high as Morocco and Jordan, proposing that a state level variation might be expected in this case, which is discussed in the second empirical chapter of the thesis (Chapter 5). In the four remaining cases, it could be observed that USO followed higher levels than spectrum management. This suggested that a variation with the telecommunications sector might be expected, this is discussed in the last empirical chapter of this thesis (Chapter 6).

Empirically, the chapter confirmed that Morocco and Jordan are closer to external models, such as European and Latin American models, rather than is the case for Egypt. In the first case, USO in Morocco (case study 1), it was shown that the European and Latin American models have had a key role in the development of USO since 2000. In the second case, spectrum management in Morocco (case study 2), it was concluded that its close links with the EU and particularly France existed to develop the subsector. In the third case, USO in Jordan (case study 3), a parallel between EU and Jordanian decisions in the

field was confirmed. This link was reiterated with the fourth case, spectrum management in Jordan (case study 4). These four cases showed the emergence and existence of a Euro-Mediterranean telecommunications environment where regulation does travel across borders. In the last two cases, USO in Egypt (case study 5) and spectrum management in Egypt (case study 6), the low level of policy adoption was confirmed. The scope of USO has been narrow, until the recent calls to provide mobile services to three cities in South Sinai. Egyptian spectrum management policies have also been limited. These lower results in policy adoption reflect state characteristics, such as the control of the military over the regulatory authority, the government involvement in the telecommunications market and more importantly the general political instability rendering status quo the best policy to follow at the time.

This chapter confirmed the assumption that policy adoption would be observable in all six cases. The assumption was developed due to the cross-border characteristic of the field of telecommunications and the need for states to look abroad for models to follow. This was confirmed in the empirical findings of this chapter. Methodologically, this chapter also showed that the conceptual framework based on two management ideas for each subsector, with the support of the product and process concepts was adequate to observe policy diffusion across states and policies. Both results tables, Table 19 and Table 20, built a strong basis for discussion in the two subsequent empirical chapters. A particular focus was set on the state divergences of Egypt compared to Jordan and Morocco (Chapter 5) and also within the sector's differences between USO and spectrum management in Jordan and Morocco (Chapter 6).

7.2.2 Conditions leading to policy diffusion (Chapter 5)

The aim of the second empirical chapter was to establish under which conditions is a country expected to adopt a policy which originated in another country. In this chapter, all three country cases were reviewed and analysed according to the different selected state variables. The four variables were defined on policy diffusion literature and based on two main ideas. Firstly, states

tend to diffuse each other's policies due to their vulnerability to the influence of external actors. Secondly, states tend to diffuse each other's policies due to the interrelations of states actions and decisions in a growing interconnected world. The two properties representing state vulnerability to external forces are described as governance and market openness. Governance openness is defined as the degree to which a country is taking into account the rule of law and the work of regulatory authorities. Market openness is defined as the reliance on national and international market forces to regulate the economy. The two properties defining the interrelations across state policy decisions are entitled political and market interconnectedness. Political interconnectedness means that the more an adopting country is relying on third countries for political reasons, the more it will have to pay attention to the policy decisions taken abroad. Market interconnectedness refers to the degree of international trade interdependence, in particular in terms of the private sector and the role of FDI.

The thesis hypothesised that higher degree of governance and market openness, political and market interconnectedness, the higher the probability of policy diffusion taking place (Hypothesis H₁ High). It also hypothesised that the lower the degree of governance and market openness, political and market interconnectedness, the lower the probability of policy diffusion taking place (Hypothesis H₂ Low). Figure 1 illustrated the two opposing hypotheses (firstly shown in Section 1.4, page 22). Figure 2 illustrated the state assumptions of Morocco, Jordan and Egypt (firstly shown in Section 1.5.1, page 29).

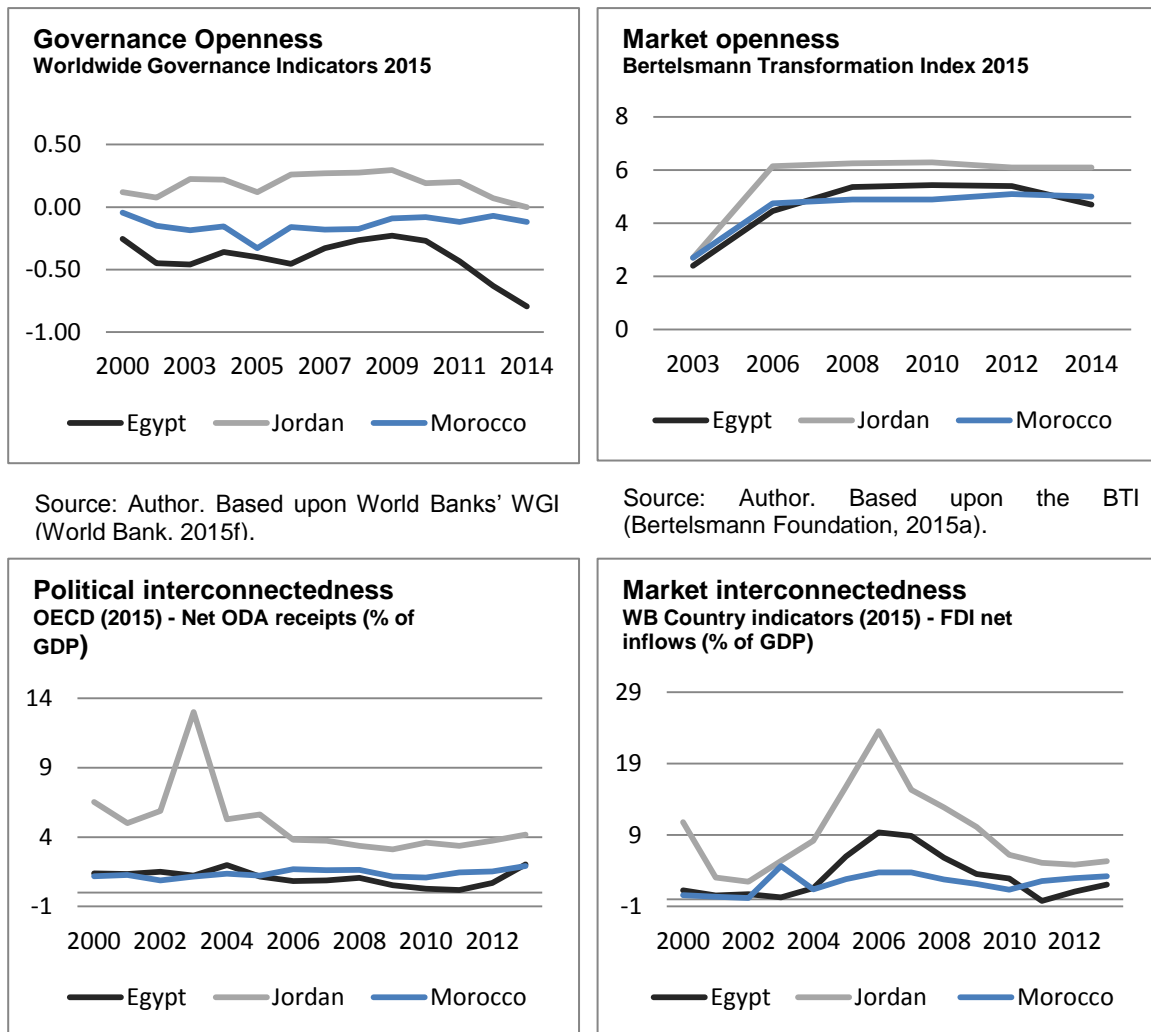
Figure 2 Country-cases assumptions



Source: Author.

Figure 2 illustrated the expectation that due to the linkage of Jordan and Morocco to external partners, for instance regarding trade with the EU for Morocco and the reliance on foreign aid for Jordan, such countries were likely to engage in policy adoption more readily than Egypt, which is on all points more autonomous than both Morocco and Jordan. These assumptions were analysed for each of the three countries and concerning each of the four variables. The measurements of the four variables were embodied in Figure 7 presenting four graphs giving the joint results of each country (firstly shown in Section 5.4, page 173).

Figure 7 State variables' comparison in Morocco, Jordan and Egypt



Source: Author. Based upon World Banks' WGI (World Bank, 2015f).

Source: Author. Based upon the BTI (Bertelsmann Foundation, 2015a).

Source: Author. Based upon Aid Disbursements (OECD, 2015).

Source: Author. Based upon World Bank statistics (World Bank, 2015a).

Based on Figure 7 several observations were made bringing noteworthy empirical and theoretical insight in the thesis. The four graphs showed that as expected, the results of Jordan were high, confirming the hypothesis that the higher levels of the four variables lead to higher levels of policy diffusion. The results of Egypt confirmed the hypothesis that lower levels of all four variables show lower levels of policy adoption. Both conclusions illustrated the observations of Chapter 4. However, the Moroccan case only confirmed the hypothesis and expectations partially. In several instances, Morocco scored lower than Egypt, the only straightforward result being that of governance

openness. These results suggested that this variable was more adequate to discuss the conditions under which countries adopt policies that have originated from elsewhere. Market openness, political and market interconnectedness provided mixed results, which needed to be assessed carefully.

Empirically, this chapter was useful to link the Jordanian, Moroccan and Egyptian contexts to policy diffusion theories. The high results of Jordan brought interesting insight into the theory. It showed that Jordan presents higher rates of vulnerability to external actors than both Egypt and Morocco. This can be explained by the role of Jordan as a buffer state in a politically and economically unstable region. Jordan has been under close scrutiny from the international community since its independence and has been a recipient of foreign aid for decades. Furthermore, Jordan is a rentier economy, relying mostly on workers' remittances from expatriated labour forces and on foreign aid. The thesis argued that rentier economies are categorised with higher degrees of vulnerability to foreign influence (Section 5.2), which is confirmed in the case of Jordan. These different elements explain why Jordan scores remarkably higher in the above graphs and contributes to the validity of the framework.

The lower results of Egypt confirmed the results of Chapter 4, as it showed that Egypt has lower levels of openness and interconnectedness than Jordan in all four variables. Egypt scores particularly low concerning the variable on governance openness, which can be explained by the historically strong hold of the military over the government and market. However, the thesis also remarked that having a military government however, was not an absolute condition to say that policy diffusion cannot take place. It is nonetheless an indicator of concentration of power, where principles of delegation and deregulation may not take place easily. Egypt is also a much larger country than Jordan and has had a different development process due to its influence in the Arab world and in the international realm. It has one of the largest economies in the region and it still holds a considerable political influence within the Arab world and in the Middle East. Egypt presents lower degrees of vulnerability to

interconnectedness with external actors than Jordan, validating the framework as well.

The last empirical observation concerns Morocco, which showed mixed results. The governance openness variable scored in between Jordan and Egypt. However, in the case of political interconnectedness the difference with Egypt only became apparent post-2005. In what concerns the two market-related variables, market openness in Morocco scored lower than Egypt between 2007 and 2012 and also between 2004 and 2010 for economic openness. These mixed results gave interesting nuances to the state variables' framework. As Morocco has been regularly and frequently adopting policies that have been originating elsewhere, its results shed light on a different grade of significance of state variables. It confirms, what was already suspected with the case of Egypt, that governance openness is a key indicator to show the conditions under which policy diffusion may take place. The three other variables need careful consideration. Political interconnectedness confirmed the basic hypothesis, but only post-2005. Market related variables, such as market openness and market interconnectedness also provided mixed results in the context of Morocco and were thus less revealing than governance openness in this context.

The importance of the governance openness variable is significant in countries such as Jordan, Morocco and Egypt which are characterised by sustained government control in policy-making. This brings an interesting nuance to the argument brought about by policy diffusion authors that the market may be central to policy diffusion (Elkins et al., 2006, Meseguer and Gilardi, 2009, Schmitt, 2014). In semi-authoritarian countries, such as Jordan, Morocco and Egypt, it appears that policy-making is more closely linked to government variables rather than market ones. This suggests that the state is highly instrumental in these countries and that authoritarianism does not affect the market as extensively as previously thought, similarly to China (Liu and Jayakar, 2016). This also confirmed the expectation regarding Egypt based on the results of chapter 4. The low adoption results of Egypt in both selected

subsectors of telecommunications can be explained by decisions taken at a state level that proceeds to policy changes or keeps the regulation of a sector in its status-quo. This was confirmed with the governance openness in the case of Morocco which illustrates adequately the role of vulnerability to external actors when adopting policies that have originated from elsewhere.

7.2.3 Mechanisms of policy diffusion (Chapter 6)

The focus of the last empirical chapter was on the mechanisms of diffusion. It answered the second sub-question of this thesis, focusing on how does policy diffusion take place. It combined five sector variables to the four mechanisms of diffusion, learning, imitation, competition and coercion, taking NRAs as the main analysis point. This chapter used the literature on soft governance to link the telecommunications sector with policy diffusion. This was based on the premise that Ministries delegate to NRAs so that they engage in policy-making activities. The thesis argued that this is likely to take place in technological fields such as telecommunications, where high levels of expertise and technological knowledge are requested for the development of policies. In this chapter, in cases where policy adoption was observed, sector variables supported the disentanglement of four traditional mechanisms of diffusion: learning, imitation, competition and coercion. This is an innovative idea contributing to theories of policy diffusion and particularly regarding the concept of mechanisms of diffusion. The literature on mechanisms of diffusion does not propose a framework to deduce which mechanism is at play when observing policy diffusion.

In this thesis, five sector variables were identified and different combinations of these variables shed light on the mechanism at play. Thus, as the focus is set on NRAs, the variables are divided into two sets defining the environment and pressures in which NRAs conduct policy making. The environment variables were defined as the international and transgovernmental channels. The pressure variables are grouped according to the interest of reaching better policy efficiency, the need to satisfy economic interests and the risks of

suffering from sanctions in case of non-compliance. Four combinations of these five variables shed light on the mechanisms at play, hence representing four different hypotheses, of which empirical evidence determined their validity. The combinations were given in Table 1 (Section 1.4, page 24). The first hypothesis (H₃ learning) argued that learning mechanisms occur in a context exempt of international regulatory channels, economic interest and sanction capacity, where transgovernmental collaboration is used with the objective of efficiency enhancement. The second hypothesis (H₄ Imitation) argued that imitation mechanisms occur in a context that is exempt of international regulatory channels, economic interest and sanction capacity, where transgovernmental collaboration is used with the objective of reaching conformity with the perceived leaders in the field (absence of efficiency variable). The third hypothesis (H₅ Competition) argued that economic competition mechanisms occur in a context exempt of sanction capacity, where international regulatory channels and not transgovernmental ones, are used with the objective to satisfy economic interests and reach efficiency. The fourth and last hypothesis (H₆ Coercion) argued that coercion mechanisms occur in a context of economic interest, leadership and sanction capacity, where international regulatory channels and not transgovernmental ones, are used principally and possess the capacity to impose sanctions.

The two chosen sectors USO and spectrum management were selected based on their differences concerning environment and pressure variables (more in Section 1.5.2 page 30). Following the results of Chapter 4, it appeared that sector level differences in USO and spectrum management explained different levels of policy adoption. This is due to the fact that spectrum management is a more sophisticated field, where policy innovation requires technological tools and capacity. USO is on the contrary of lesser sophistication scope and can be diffused more easily. Table 3 summarised the assumptions concerning policy sectors. It argued that USO policies were mostly expected to follow learning and imitation mechanisms, whereas spectrum management policies were likely to

take place following competition and coercion mechanism (firstly shown in Section 1.5.2, page 33).

Table 3 Subsector-cases assumptions

	Sector Environment		Sector Pressures			Policy Sector
	International regulatory channels	Transgovernmental collaboration	Efficiency	Economic Interest	Sanction capacity	
Learning (H₃)	-	+	+	-	-	USO
Imitation (H₄)	-	+	-	-	-	USO
Competition (H₅)	+	-	+	+	-	Spectrum
Coercion (H₆)	+	-	-	+	+	Spectrum

Notes: Values: +: presence of variable is related to mechanism; -: absence of variable is related to mechanism.

Source: Author.

The hypotheses and assumptions in this empirical chapter were based on four propositions originating from the literature of policy diffusion, telecommunications policy diffusion and soft governance theories (Section 2.4.2). All four propositions were discussed in chapter 6 and contributed to the development and adaption of the theories to meet empirical evidence.

The first proposition concerned the linkage between economic interests and international structures and proposed that in policy sectors where large economic profits and benefits are at stake, as it the case in the telecommunications sector, conflict may easily arise and so may asymmetrical power relationships. In such cases, international regulatory bodies impose rules to create a worldwide framework and control the developments in the sector. Competition and coercion mechanisms are therefore linked to economic interests and international channels of regulations (illustrated in Table 5, page 62). The second proposition argued that the concept of efficiency is adequate to distinguish between the mechanisms of diffusion, as it shows a distinction between the focus on efficiency, as in learning and competition and the focus on the actor, as is the case in imitation and coercion (illustrated in Table 6, page

65). The third proposition argued that the role of sanctions or the risk thereof is directly linked to coercion mechanisms (illustrated in Table 7, page 67). Finally, the fourth proposition argued that the variable of the transgovernmental collaboration is proposed as a counterweight to the variable of the international framework. In transgovernmental collaboration, the motivation is not linked to the asymmetrical relationship of powers, as is seen in coercion and competition mechanisms. As such, transgovernmental collaboration is linked to mechanisms of learning and imitation (illustrated in Table 8, page 68). These four propositions were central to the discussion of Chapter 6.

This chapter only focused on the four cases where policy adoption had been observed more clearly. Both subsectors cases in Egypt were left at this stage, as it was concluded that in the two policy subsectors, the case of Egypt was less relevant. The empirical analysis of this last empirical chapter thus focused on USO and spectrum management in Jordan and Morocco. Table 23 presents the results of the empirical analysis of the four study cases (firstly shown in Section 6.3, page 218). It showed that each sector case corresponded to a different mechanism of diffusion. The case of USO in Morocco (case study 1) was linked to the mechanism of learning, the case of USO in Jordan (case study 3) to imitation, spectrum management in Morocco (case study 2) to competition and finally, spectrum management in Jordan (case study 4) to coercion. The fact that each case was explained by one mechanism of diffusion is useful for comparison purposes. It allowed the possibility of drawing similarities and divergences across subsectors and countries and discussing the combinations of variables with a clear focus.

Table 23 USO & Spectrum management in Jordan and Morocco

	Sector Environment		Sector Pressures			Policy Sector
	International regulatory channels	Transgovernmental collaboration	Efficiency	Economic Interest	Sanction capacity	
Learning (H₃)	-	+	+	-	-	MO: USO (1)
Imitation (H₄)	-	+	-	-	-	JO: USO (3)
Competition (H₅)	+	+/-	+	+	-	MO: Spectrum (2)
Coercion (H₆)	+	+/-	-	+	+	JO: Spectrum (4)

Notes: Values: +: presence of variable is related to mechanism as expected; -: absence of variable is related to mechanism as expected; +/-: presence or absence of variable whereas it was not expected.

Source: Author.

Table 23 showed that as expected, USO cases corresponded to learning and imitation mechanisms in the majority and spectrum management cases to competition and coercion. This confirmed the sector assumptions of Table 3 (firstly shown in Section 1.5.2, page 33). Sectors with low adoption costs and low international economic and political interest, such as USO, follow more easily learning and imitation mechanisms. In such cases, more leeway is given to the domestic countries to decide upon the policy changes they wish to take. On the contrary, policies that encompass much heavier economic and political interests, such as spectrum management, follow more evidently mechanisms of competition and coercion. In such cases, more intense external pressure exist requesting domestic countries to adopt policies following specific patterns.

In the case of USO in Morocco, the development of the policy became almost an international statement showing the commitment of Morocco to improve its connectivity. The policy-makers gathered energy and information to provide a specific model fitting the domestic context. In this case, policy learning occurred. In the case of USO in Jordan, it was observed that policy imitation took place instead of policy learning. This resulted in a domestic choice to follow a perceived external leader in the field, in this case the EU. In the case of spectrum management in Morocco, it was observed that competition was the

stronger mechanism, with an apparent motivation of the Moroccan policy-maker to prove their equal competences at international level. This resulted in competition mechanisms the majority. In the case of spectrum management in Jordan, however, an additional focus was set by the policy-makers on the need to follow the decisions made by the main actors in the field, the EU in this case, and the minimal impact that Jordan could have to influence policies. This corresponded to subtler power relationships that are part of the variable of sanction capacity. The result of which, was to observe mechanisms of coercion in this last case.

One major conceptual and theoretical observation was made based on Table 23. It showed that almost all properties were present or absent, as expected, in each of the four cases. This allowed the conclusion that the presence of the mechanisms in each of the cases in a straightforward manner. Only in two instances, did the variables not conclude as expected. This was the case of transgovernmental collaboration which also took place during the competition and coercion mechanisms and not only in learning and imitation cases. This suggested two things. Firstly, that the variable of transgovernmental collaboration is not sufficient to differentiate across the mechanisms. Secondly, this showed that in the telecommunications sector, soft governance has become the rule to proceed to policy change and hence several transgovernmental channels, such as regulatory groups, MoA and twinning partnership overlap in the process of policy-making. This observation allowed for the adoption of the hypotheses so to include the empirical lessons learned from the chapter.

While both the learning and imitation hypotheses remained unchanged, an adaptation was required for both coercion and competition. Based on the observed ambiguity regarding the use of transgovernmental channels in the field, the competition hypothesis was adapted, as follows (H₅ Competition): *economic competition mechanisms occur in a context exempt of sanction capacity, where international regulatory channels and transgovernmental ones, are used with the objective to satisfy economic interests and reach efficiency.*

Based on the observed ambiguity regarding the use of transgovernmental channels in the field, the coercion hypothesis was adapted as follows (H₆ Coercion): *coercion mechanisms occur in context of economic interest, leadership and sanction capacity, where international and transgovernmental channels are used and possess the capacity to impose sanctions.*

Finally, the results of this last empirical part shed light on the four propositions mentioned in section 2.4.2. The two first propositions, which argued that competition and coercion mechanisms occur principally in situations where economic interests and international channels exist (Proposition 1) and that efficiency is linked to learning and competition and leadership to imitation and coercion (Proposition 2), were confirmed. The first section of chapter 6 notably addressed the corporate and sanction context of telecommunications (Section 6.2, Framework Propositions 1 and 2). It was argued that corporations have a revealing weight in the telecommunications sector, as there are parallels to be found between the ownership of main corporations and regulatory alliances in the field. Regarding sanctions, it appeared that in the telecommunications sector, sanctions are not as visible and direct, as would be, for example, economic sanctions imposed by the UN, such as the interdiction to conduct commercial and financial activity with a country threatening international norms (Charron and Portela, 2015). On the contrary, sanctions in the telecommunications sector are closely linked to a subtle relationship of power linked to the objectives of economic interests and profits. Such relationships of power were notably observed within the ITU. However, this chapter also noticed that traditional power relationships are being challenged, with African and Arab countries growingly resisting to EU decisions in the ITU and following their own agenda.

The two last propositions however were only partially confirmed (Section 6.2, Framework Propositions 3 and 4). The third proposition arguing that sanction capacity can only be imposed by international channels was partially confirmed (Proposition 3). Transgovernmental channels are used in combination with international channels nowadays, which render a straightforward demarcation

more difficult to observe. Finally, the fourth proposition arguing that transgovernmental frameworks mostly lead to learning and imitation mechanisms was not confirmed (Proposition 4). Confirming the finding of the third framework proposition, the fourth framework proposition showed as well that in contemporary policy-making in the telecommunications sector, transgovernmental frameworks are used in combination or in replacement to international channels. For instance, this variable is not useful when disentangling the mechanisms of diffusion. It showed that the sector is increasingly managed by a variety of overlapping actors, including horizontal and vertical, transnational and international, institutional, corporate or private actors. This confirms the argument of telecommunications and media policy authors, who argue for the increasingly diverse range of actors regulating the field (Padovani and Pavan, 2011, Raboy and Padovani, 2010). This chapter underlined the overlapping and intertwined actors in policy-making in the field of telecommunications.

To conclude, this chapter confirmed the validity of the sector variable framework, except for the role of transgovernmental collaboration, which has been increasingly used by the policy-maker in the subject, making the variable inadequate to differentiate among mechanisms of diffusion. It appeared from this chapter, that pressures existing in a specific sector limit the types of mechanisms of diffusion which can take place. High levels of economic interests and sanction capacity have a tendency to provoke mechanisms of competition and coercion, while learning and imitation take place in contexts exempt from such pressures. Empirically, this chapter also provided interesting information regarding the interactions between the international policy-making environment and each of the selected case studies. The meeting points between both levels of policy-making shed interesting insights into the development of globalised policy-making nowadays.

7.3 Limitations

This thesis gathered the data in an objective and ethical manner. The research design, theoretical and conceptual frameworks and operationalisation of variables have been developed based on the literature on the policy diffusion in the most informed way. However, several limitations have been present all along in the process from decisions regarding the research design to the data gathering and empirical analysis. Several of the limitations regarding the research design have nonetheless been discussed in the thesis, during the methodological section (Chapter 3) and the empirical section (Chapters 4, 5 and 6). This is particularly true regarding the conceptualisation and operationalisation of the variables, which is extensively discussed in chapter 3.1 and in each of the empirical chapters. Some of the limitations that have not yet been discussed are given in this part. They are important to consider as they may have had a possible impact on the results of this study.

The main limitation refers to the selected timeline. The focus of this research is very contemporary. This is linked to the chosen topic as modern developments in policies in spectrum management and USO have mostly started to take place in the late 1990s and beginning of the 2000s. As the timeline focused on these new laws and their developments until the year 2014, it seems obvious, that in some cases, data, such as policy documents and programmes, were not yet available to the public. While conducting interviews as well, the time lag between the creation of certain projects in the MENA countries and the questions that were asked was sometimes extremely short. This means that in several cases, a critical distance had not yet been achieved.

In several cases, the lack of such distance supported the quality and abundance of relevant answers to the thesis and allowed me to meet the people who really worked on the projects themselves. Some of the decisions were also just being discussed and sometimes taken. For example, the Egyptian NRA published the results of the first USO project call at the beginning of 2014, which was just a couple of weeks before the interviews took place and no public information was available to triangulate the information gathered in the

interviews. In Jordan, the decision concerning the inclusion or not of broadband in the USO had just been made a few days before my arrival in Amman. In Morocco, spectrum auction for LTE technologies took place in 2014. However, the fact that these decisions are so recent, also make it a very interesting experience for research. For instance, in most cases, the experts that were interviewed, had been or were the ones still working on the policies themselves, and thus a hands-on experience could be shared. It also allowed for very precise information to be shared, with contextualisation and anecdotes that were alive and precise in the experts' minds.

Another limitation concerns the expert interviews. In the three countries under study, Morocco, Jordan and Egypt some issues regarding the field research concerned the semi-authoritarian political systems of these countries. This is notably the case regarding the level of independence of the NRAs from the relevant Ministries. This had two different impacts regarding the gathered data. Firstly, it was often the case that the information given by experts remained in the limits of what the official discourse from the Ministry was. Furthermore, it often happened that reports, laws or programmes that should have been published on the respective websites of the NRAs, were not always available. More publicly available data would have allowed for a better triangulation of information. Furthermore, it often appeared difficult to request these documents to the concerned teams. This was particularly the case with Egypt, where the country was still under the turmoil of political changes. In this case, interviews took place with the heads of the NRAs and Ministries, but it appeared difficult to contact the experts working on specific subjects.

Finally, it is possible that the influence of other variables have not been a sufficient focus of this thesis. This is the case, when looking at the adoption costs behind the adoption of certain programmes. The budgets of implementing programmes have not been a key interest of this thesis, as the focus was on the diffusion of ideas and the exchanges across jurisdictions. Thus, no questions were asked regarding the adoption costs, including the allocated budget within the NRA, for different subsectors and programmes. It is possible that budgeting

may have had an impact on the decisions to implement certain projects at the expense of others. Linked to this point, is also the possibility for alternative explanations to depict the relationship between the independent and dependent variables. To compensate for that sort of limitations, a systematic approach to analysing the data was taken and explained in detail in the methodological section. It is nonetheless not impossible, that other interpretations could add explanatory value to changes and continuities.

7.4 Generalisability

The generalisability of the case studies is important to support the arguments made in the thesis and to extend research to other levels. Generalisability in this thesis can be divided into three different parts. Firstly, it can be generalised to other states. For example, it could be interesting to compare results with states who share similarities in terms of geographical situation, economic development or political systems. The results can also be generalised regarding the selection of the sector, for example in terms of scope, whether it is a cross border field and the type of economic interests. Finally, generalisability could also concern the actors, who are active in such regularised fields. The role of international regulatory bodies in diffusion is not only applicable to telecommunications and other sectors are ruled by similar system, as is for example the case of international aviation.

The generalisability to other countries can be divided into three categories. In this thesis, Morocco, Jordan and Egypt have been considered. They share several common features, particularly, the fact that they are part of the Euro-Mediterranean area, that they are semi-authoritarian countries and finally that they are middle-income countries. It is possible to imagine other cases who share the three similar features. This could be the case of Algeria and Lebanon for example, who are part of the Euro-Mediterranean area, and are semi-authoritarian countries with middle income economies (World Bank, 2015a, Center for Systemic Peace, 2014). To some extent, Tunisia could be a case as well, even if in this case the political system is evolving slowly, as Tunisia is still

struggling to emerge positively from the 2011 political turmoil (O'Brien, 2015). The Palestinian territories and Libya are also part of the Euro-Mediterranean area, as well as being middle income economies (World Bank, 2015a, Center for Systemic Peace, 2014). However, the political situation differs in several ways, as both have issues regarding the legal independence of the state for the former and legal status of the government for the latter. Nonetheless a greater sample of cases based on state characteristics would bring significant potential for comparative analysis.

It could be stimulating to extend this research to other geographical areas. Many African states are not part of the Euro-Med area but would be adequate for empirical research. Most of them are middle income countries and in several cases correspond to semi-authoritarian countries. This would be the case of for example, Sub-Saharan countries, such as Cameroon, Gabon or Nigeria (World Bank, 2015a, Center for Systemic Peace, 2014). They represent a fascinating field for telecommunications, as they are great consumers of such services. Sub-Saharan countries are also part of region 1 of the ITU together with European and Gulf States which reveal potential to unravel conflict of interests in the field. Other middle income countries, which would be very interesting to further research, are countries in Latin America. As seen in this thesis, the relationship between Latin America and the MENA countries is closer than expected. Even if Latin American countries have more stable and democratic governments as the selected cases, they represent interesting potential from an economic point of view (World Bank, 2015a, Center for Systemic Peace, 2014). As such, studying middle income countries such as Bolivia, Peru, Columbia or Paraguay would bring interesting insight into telecommunications developments.

The second type of generalisability of this thesis concerns the chosen sector. Telecommunications were selected as a case study for several reasons, which includes the fact that it is a cross-border field by definition, due to the need for states around the world to cooperate to best use the necessary resources. It is also a field characterised by high levels of necessary technology and

investments to develop the sector. Lastly, the existence of conflicting economic interests and profits delineate actors in the field. As such, similar sectors for generalisability shall comprise of these characteristics, being a cross-border service, technology and investment intensive and being economically relevant. Several sectors correspond to such a definition, which have been mentioned earlier in the thesis. One of them relates to technological fields such as biotechnology industries, where high level of education and experience are needed in order to advance policy developments in the field. In such sectors, interests are strong as large amounts of money have to be invested for growth. Furthermore, its development is central for a variety of other sectors such as agriculture or pharmaceuticals. Other technology intensive sectors, where high levels of interests are entangled, concern computer sciences, which are also largely marked by technology intensive characteristics. Furthermore the role of computer sciences in the development of other sectors of the economy has an equally high level of potential economic profits.

Lastly, generalisability may apply to the transgovernmental and international actors in the field. In the telecommunications sector, the ITU is an exceptionally broad regulatory forum, encompassing both public and private actors and whose longevity and authority has not been paralleled so far. Concerning international regulators, several sectors could be interesting which are regulated by worldwide associations or organisations. A variety of forms of supranational regulations exist in other fields, such as in international aviation with the ICAO or in the banking sector, the BCBS (Braithwaite and Drahos, 2000:117). In such sectors, international regulatory fora provide promising areas for policy diffusion research. The Food and Agriculture Organization (FAO) of the United Nations is also an interesting body for the study of international forum's influence in policy making in a field characterised by its importance for states all over the world.

7.5 Conclusive words

This thesis proposed several views on policy diffusion and elaborated three different theoretical and conceptual frameworks used to observe policy

adoption, to understand the role of state variables in the likelihood of adoption and to identify sector variables and mechanisms of diffusion. These conceptual and theoretical frameworks opened the path to observe more global regulatory encounters. Weyland mentions the importance of such studies to disentangle the relative weight of international versus domestic forces, the role of symbolic versus utilitarian motives and the prevalence of comprehensive versus bounded rationality (2006:11). All of these elements were present in one form or another in this thesis. This thesis focused on the role of international versus domestic forces in several ways, discussing the interactions of the international and transnational regulatory process with the domestic policy-making level. It showed that countries which adopt policies from external actors do not do so by being forced and pressured in every case, but are independent to choose and assess options according to their own agenda. A variety of responses to international and transnational policy making forces was observed in the thesis. Symbolic motives and utilitarian motives were present in this thesis as well. This was particularly the case with the development of USO, which is a very symbolic policy compared to spectrum management, which is a more utilitarian and corporate area (Jayakar and Liu, 2013). The role of symbolism in policy diffusion in this thesis was observed in the concept of international attention when adapting and adopting new policies.

The qualitative exploration of cases in Jordan and Morocco showed that looking good in the eye of the international community is central to policy-making. USO policies in particular, are useful to show commitment to improving practices, as they carry a social aim that is accepted worldwide as being a positive policy to develop and it furthermore does not need political and economic sacrifices to be achieved. Finally, the limits of human rationality and the need to engage in interconnected activities to best develop certain sectors, was central in this thesis. Limits to rational decision-making are central to the definition of policy diffusion, but also to the mechanisms of diffusion. The focus on the role of efficiency versus the perceived leader shed light on different approaches policy-makers chose to follow to conduct policy-making process.

One of the interesting and unexpected findings of this research is the changing regulatory flows in the sector of telecommunications. This was observed in different instances. Firstly, it was observed that countries such as Morocco are very sophisticated and up-to-date with their policy innovations in the telecommunications sector. In some cases, it was even observed that Morocco was leapfrogging the EU. This was the case in the context of USO policies. This shows that traditional North-South regulatory flows are being challenged. It was also the case with the observation of changing power relationships within the ITU following the WRC-12 and WRC-15, with Arab and African countries countering EU propositions in spectrum allocation. The emergence of South-South regulatory flows was also observed in the case of USO in Morocco, where policy-maker took their inspiration from Latin American countries, suggesting that more resemblances and parallel can be found in countries of the Global South to progress with telecommunications regulations. These different elements confirmed the emergence of new regulatory flows, particularly the South-South flows, challenging the traditional North-South and North-North flows, as mentioned in Section 1.6 (Bauer, 2010b:9). Finally, the last flow, South-North, has been less evidenced in this thesis, but there is no doubt that with innovative ideas emerging from the Southern countries, the Northern more traditional telecommunications powers will increasingly have to take these ideas into account.

To conclude, different possibilities for generalising the findings of this thesis have been discussed earlier (Section 7.4). In addition, several suggestions for subsequent research can be useful to develop the argument further. Firstly, additional research would be needed to test the three frameworks in other cases. This thesis used qualitative methods. It would be fascinating to test the variables on a greater scale and look for large-n data. This would allow for a greater potential to draw inferences between variables and analyse these frameworks from a different angle. For instance, a large sample of states could be selected to test hypotheses quantitatively. This would be particularly interesting for mechanisms of diffusion, as no such study has yet been done on a larger scale. Furthermore, this thesis has focused mostly on the adoption side

of policy diffusion. Three countries were selected where a potential of adoption existed. However, these countries are not only the adopters of policies but also the diffusers for other states, as is the case with Morocco and its role as a policy example for African countries. Moreover, traditional policy diffusers, such as the EU may increasingly become adopters themselves, having to cope with increasingly challenging and sophisticated international actors. Hence another approach towards the distinction between adopters and diffusers may bring interesting insight into changing roles of international regulatory powers and more precisely embody the changing regulatory flow that the sector is currently experiencing.

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