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Abstract

Most of the countries in the European Union are immersed in the analogue-digital switchover, and it is envisaged that by the end of 2012 all of the countries will have changed over to digital television, giving rise to the digital dividend in Europe. The recently harmonisation of the 800MHz band as the European digital dividend will have different impact on EU member states. In this paper we will address the question regarding the impact of digital dividend harmonisation on national planning for the development of Digital Terrestrial Television (DTT) in United Kingdom and Spain. Taking these two countries as our reference points, we will see that their DTT transition models differ greatly. In the UK, the digital transition was based on a centralised model designed to release a major portion of the spectrum, whereas the Spanish model is highly decentralized, both regionally and locally. In Spain, the introduction of digital television has sought to respond to regional and local communication needs, virtually casting aside the release of the digital dividend for the provision of wireless communications services other than broadcasting. The lack of European coordination and the limited foresight of the Spanish authorities regarding the increase in spectrum demand will make the digital transition in Spain far more expensive, given the need to reassign the frequencies subject to European harmonisation. Unlike the UK, which had already envisaged the release of a large amount of spectrum, in Spain, the impact of European harmonisation on national DTT planning will inevitably be greater.

The structure of this paper will consist of an identification of the regulatory framework and the directives issued by EU institutions in relation to European policy on the development of digital terrestrial television, a prior and necessary step to complete our understanding of EU actions involving the digital dividend. Having analysed harmonisation process of the digital dividend in the EU, we will pay attention to its impact on the national DTT plans of United Kingdom and Spain.

JEL codes

Keywords: Broadcasters, Spectrum, Digital Dividend, Harmonization, European Union

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Introduction: European digital terrestrial television policies

Most of the countries in the European Union are now immersed in the analogue-digital switchover, and it is envisaged that by the end of 2012 all of the countries will have changed over to digital television, giving rise to the digital dividend in Europe[6]. In this context, the EU, which has gradually developed a spectrum policy of its own, has set out to take advantage of the opportunity inherent in the emergence of the digital dividend within its territory. In Europe, the increase in spectrum demand resulting from the development of wireless technologies and applications has led to the view of this newly freed up space as a unique opportunity to move forward in a European spectrum policy. The release of the digital dividend is a priority in European policy and represents an opportunity to expand Europe's scope of activity and to penetrate the UHF broadcasting networks that had previously been reserved to the states.

Before we analyse the actions undertaken by the EU on the digital dividend, we must observe the way in which European policies have affected the Digital Terrestrial Television (DTT), the main features of which are market orientation and the lack of coordination among states.

The beginnings of European digital TV date back to 1993 with the publication of the Communication on "Digital Video Broadcasting. A Framework for Community Policy" [COM (1993)557final], which set out the lines of action for the implementation of the new television technology. The development of this technology displayed the values of both the market and the application of competition principles. As LEVY observes, "competition policy would continue to be prevalent in the European Union's intervention in the digital television market" (LEVY, 1999:80).

[6] Commission Recommendation 2009/848/EC on "Facilitating the release of the digital dividend in the European Union".

The EU's concern for the technical and industrial aspects can be seen in the approval of Directive 95/47/EC on the use of standards for the transmission of television signals, which was to serve as an initial structure for the digital television market. Other communications, such as the Communication on “Principles and Guidelines for the Community’s audiovisual policy in the Digital Age” [COM (1999)657final] and Communication on “The development of the market for digital television in the European Union” [COM (1999)540final], reflect the EU’s trust in the market forces as a driving force for the implementation of DTT. The continuity of the liberal approach is also evident in communications on “The transition from analogue to digital broadcasting” [COM (2003)541final] and “The Future of European Regulatory Audiovisual Policy” [COM (2003)784final], which take in the principles of minimum intervention and technological neutrality in the development of digital processing. The promotion of a single European market would become an essential focal point in the digital television policy, reaching its height in legal terms with the publication of the new legislative framework for electronic communications of 2002, which would have a bearing on the audiovisual sector (VAN DIJK, 2003).

This small number of initiatives undertaken at the European level stems from a general rule of minimal intervention that took in purely technical and economic aspects, where the increase in competition and technological innovation within the framework of the information society resided at the heart of all concerns. European DTT policies have in fact been shaped more by omissions than by actions (GARCIA LEIVA, 2006).

One of the primary features of the 2002 regulatory framework was the separation in the regulations of contents and networks. DTT implementation would come through infrastructure regulations, in which digital television was conceived as a mere support for access to the services of the information society. The information society developed out of a progressive and competitive spirit in the Lisbon Strategy, which aimed to position Europe as one of the most dynamic and competitive economies in the world. Communication Commission “eEurope 2005: an information society for all” [COM (2002)263final] reveals the way in which digital television would come to represent a platform with applications for access to a range of information society services.

Though the EU has acknowledged the digitization of broadcasting networks and the development of the information society as key aspects of its policy, such interest has been want for an active and committed regulation that is focused on the technological change in broadcasting networks. In Europe's eyes, DTT is a secondary platform for access to digital services in the information society. This is evidenced by the importance placed on the release of spectrum for the introduction of new digital applications in it. In fact, some researchers go so far as to say that DTT does not occupy a central place in European politics, aside from its purpose to free up spectrum (GARCIA LEIVA, 2006). As can be seen in Commission documents, the idea behind the promotion of this technology was not to universalise the services of the information society, but rather to free up resources – and particularly spectrum – for the implementation of other platforms that would enable the introduction of additional broadband services (European Commission, 2005e).

The non-existence of a shared European policy for digital terrestrial television suggests that each country is following its own path in the conversion, based on its own national broadcasting conditions. The result is a lack of coordination among European countries in the migration process to DTT. In fact, much despite the initial EU documents of the mid-90s that emphasised the need to coordinate the transition among the States, nearly 15 years later, it is plain to see that European leadership and coordination efforts in this area have been minimal. We cannot speak of a single formula. Rather, experiences vary depending on the national circumstances and the predominant broadcasting platform.

Despite the Commission's interest in coordinating the digital transition process, the actions carried out had little to do with monitoring activities, and their effects would be purely informative. In a sense, the European institutions left the states to confront this change on their own, providing only minimal guidelines for action, such as the deadline for digital migration, in 2012 (European Commission, 2005d). The interest in the digitization of broadcasting networks was not expressed in a specific policy to coordinate the digital migration process.

The technical harmonisation of the digital dividend in the European Union

Though the introduction of digital terrestrial television is part of a global phenomenon, each country has developed its own unique methods to introduce this technology. At the European level, these disparities persist due to the lack of a coordinated digital television policy, thus hindering a common approach to the digital dividend. Given the nature of this starting point, the emergence and dimension of this space is different in each European country, making for as many digital dividends as there are countries. As a result, it is impossible to speak of a single, uniform and harmonised digital dividend throughout the Union. The size (MHz released) and the time of release are two key properties of the digital dividend, which at the same time depend on the priorities of each national DTT policy.

There are five factors that determine the size of the digital dividend: the television reception platform, the number of planned multiplexes, public service obligations, and finally the dominant standard for digital terrestrial television (OCDE, 2006). Terrestrial television reception is the most widespread in the EU and a large amount of the spectrum is occupied by broadcasters. Moreover, member state planning will have a direct impact on the ultimate size and location of the digital dividend in each country. The size of the digital dividend will vary, depending on the number of envisaged multiplexes (national, regional and local) in each area.

Moreover, countries with national policies that are firmly committed to public service broadcasting will occupy a larger share of the spectrum than those that are less committed to public service. Finally, the decision of the standards to be set will also have a bearing on the size of the resulting digital dividend. Among the factors that determine the space of the digital dividend, European countries only coincide in that of the standard to be set, which was agreed to be DVB.

As the EU's executive power, the Commission has been the main driving force for the harmonisation of the digital dividend in Europe. However, the political nature of decisions that affect the digital dividend make it necessary for

the Parliament and the Council to take part in the major strategic decisions along the route to the digital dividend[7].

The European Commission

From a formal standpoint, the first political initiative of the Commission on the harmonisation of the digital dividend took place in 2005 with the publication of the communication "EU spectrum policy priorities for the digital switchover in the context of the upcoming ITU Regional Radiocommunication Conference 2006" [COM (2005)461final]. A year after the publication of this document, which made the digital dividend one of the high priorities of European spectrum policy, the Commission would again decide on this matter within the framework of the ITU's Word Radiocommunications Conference (European Commission, 2007g).

Well aware of the fact that the digital dividend offers a unique opportunity to meet the demands for electronic communication services, the Commission published the Communication "Reaping the full benefits of the digital dividend in Europe: a common approach to the use of the spectrum released by the digital switchover" [COM (2007)700final] in an effort to build a common European strategy for the digital dividend that would maximize the potential of this new space. Similarly, to better understand the social and economic repercussions of the different uses of the digital dividend, the Commission ordered a large-scale study to analyze and evaluate the many social and economic aspects that came into play. According to the report "Exploiting the digital dividend a European approach" (Analysys, Dotecon & Hogan-Hartson, 2009), the implementation of an appropriate European coordination scheme for the digital dividend would have an economic impact of 20,000 to 50,000 million euro over 15 years' time. They also warned that the individual actions of one state can affect the interests of another, and called for a minimum level of European coordination to make the most of the digital dividend.

[7] According to the presentation given by the Head of the Radio Spectrum Policy Unit of the European Commission, Pearse O'Donohue, at the ECTA Conference, held in Brussels in December 2009.

The Commission used the results of this study for the draft of its Communication on "Transforming the digital dividend into social benefits and economic growth" [COM (2009)586final]. This document advocates the opening of the digital dividend to different services, as "an opportunity to attain a spectrum for wireless broadband network operators" and announces the digital dividend as an important point of the first long-term programme (European Commission, 2009)[8]. The publication of a decision on the technical harmonisation on this sub-band is anticipated for the first half of 2010. Such decision would not obligate the States to open up the 800MHz band to electronic communications services.

The major EU institutions unanimously agree about the possible benefits of conducting a coordinated approach to the digital dividend at the European level. Hinging on this to a large extent is Europe's leadership in internet and mobile broadband development, which are fundamental aspects for the EU's competitiveness and cohesion in the international arena (Commission, 2007; Parliament, 2008; Council, 2008).

The European Parliament

The Parliament cast its decision on the Commission's plans through Resolution on "Reaping the full benefits of the digital dividend in Europe: a common approach to the use of the spectrum released by the digital switchover", which acknowledges the new opportunities for market growth, the potential of which depends on coordinated Community action. The resolution also warns against the risk of fragmentation, which leads to the poor use of resources. Thus, the Parliament calls on the Commission to ensure that any future plans for the spectrum are implemented in a coordinated fashion, and to see that they do not create new barriers for future innovation. In this sense, the

[8] Another key aspect of the programme would be the adoption of a common EU stance at the next WRC 2012, particularly to generate trans-border coordination with non-EU countries (European Commission, 2009). The current Chair of the RSPG, Roberto Viola insisted on the international scope of the European spectrum policy and specifically cited the need to establish a single European position in international forums such as the ITU.

document underscores the advantages for scale economies, innovation, inter-operability and the provision of pan-European services, and a more coherent and integrated plan at the EU level (European Parliament, 2008). For such purpose, the Parliament encourages coordination among states to identify common digital dividend spectrum sub-bands subject to harmonisation within the EU. In a word, the Parliament understands the importance of the technical harmonisation of the spectrum and fully supports to the plans of the Commission.

The Council of the European Union

The Council also acknowledges the social, cultural and economic potential of the digital dividend; however, it additionally places importance on the different national circumstances. Thus, the state representatives underscore the indisputable right of the national authorities to determine the portion of spectrum to be allocated to serving the public interest, as pursuant to European regulation. The Council takes into account the different situations vis-à-vis spectrum use in the UHF band throughout Europe and warns of the particular features of the different national plans for digital migration, which can directly affect harmonisation schemes.

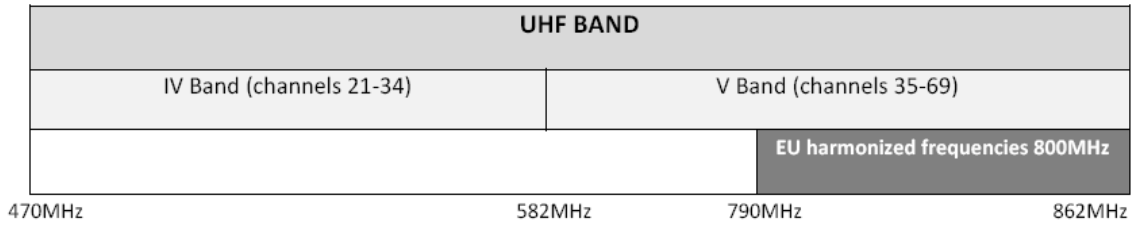
Though the Council calls attention to state sovereignty in establishing the uses and size of the spectrum space resulting from the digital transition, this body also acknowledges the importance of close cooperation among the states in coordinating spectrum use and promoting the emergence of scale economies on the spectrum. The EU Council's resolution clearly states that sub-UHF band harmonisation for mobile communications is possible, providing that it not be forced, as the national governments wish to assert their sovereignty over the airwaves, and particularly over the broadcasting space (Council of the European Union, 2008).

Now that we understand the level of political commitment inherent in the harmonisation of a part of the digital dividend in the EU, it is particularly important to define the elements that determine the location of the digital dividend in Europe, which is located in the 800MHz band, between 790 and 862MHz. The 800MHz band was established through a comitology system that

based its decision on the Word Radiocommunication Conference 2007 (WRC-07) agreement to release the 800MHz band for mobile applications.

The Regional Radiocommunication Conference 2006 (RRC-06) had previously planned to use the UHF band for digital broadcasting as a primary service, with no interference protection for any possible secondary services that might be introduced. Moreover, 15- and 20-year DTT licenses were being granted at the national level. According to the RRC-06, there were domestic or international constraints on the opening of the 800MHz band for mobile services. A year later, the WRC-07 allocated the 790-862MHz band as a basic space for mobile services (with the exception of aeronautical services) in region 1 as of June 2015. This resolution allowed the EU to harmonise the digital dividend on the continent, opening up a legal pathway for the European harmonisation of this band. Thus, we have seen the way that an international commitment has enabled the European Commission to harmonize the 800 MHz band, overcoming the technical, and above all, political limitations (see figure 4.1).

Figure 4.1. European Commission Harmonization Plans: Bands and Channels



Harmonized Ch	61	62	63	64	65	66	67	68	69
Frequencies	790-798MHz	798-806MHz	806-814MHZ	814-822MHz	822-830MHz	830-838MHz	838-846MHz	846-854MHz	854-862MHz

From that point on, the Commission would focus its efforts on the harmonisation of the 800MHz band and its consequent opening for electronic

communications services. At the end of 2009, along with the Communication "Transforming the digital dividend into social benefits and economic growth" [COM (2009)586final], the Commission published a Recommendation 2009/848/EC on "Facilitating the release of the digital dividend in the European Union" that was designed to pave the way for the immediate harmonisation of the 800MHz band, envisaging the urgent implementation of specific actions by the states. On one hand, the states were prompted to abandon analogue television completely by 1 January 2012, in order to make the digital dividend fully available. On the other hand, the states were also encouraged to support the proposal for the harmonised use of the 790-862MHz sub-band for electronic communication services other than broadcasting services and to refrain from taking any measures that might hinder or prevent the use of those services.

In a word, a common approach to the digital dividend in the EU is automatically two-fold, as it entails the harmonisation of a single frequency band throughout the Union, and by means of such band, the provision of services that are governed by a common regulatory framework. Efficient use and access to the spectrum are key in achieving the goals set forth in the renewed Lisbon Strategy, and the emergence of the digital dividend is a unique opportunity to develop new services (mobile television, WiMax, and other mobile broadband services).

Regulatory harmonisation: the liberalisation of the digital dividend

Having confirmed the desire of the European executive powers to technically harmonise the 800MHz band, we shall now turn our attention to the harmonisation of the regulatory framework, which bears a direct relation to the potential uses of the band. The Commission wishes to open up the technically harmonised 800MHz band to other types of electronic communications and thus subject it to a regulatory harmonisation that is envisaged in the electronic communications framework reform of 2009, which is based on competition and technological and service neutrality. The idea is to promote the development of services that have little to do with broadcasting. Thus, electronic communications services are the envisioned focus of the 800MHz band.

Indeed, inspired on the principles of the internal market, the Commission's plans for spectrum management tend to follow the winds of renewal, which run through several national and international arenas. In fact, the revision of spectrum management models in the EU is central to the 2009 electronic communications regulatory framework reform. Informally, the Commission had already begun to move towards a more flexible spectrum management system with the introduction of a more effective and flexible radio spectrum policy via the Wireless Access for Electronic Communications Services (WAPECS) policy, which envisaged a new approach to spectrum management in very specific bands such as those of GSM and 3G services or the UHF broadcasting band (European Commission, 2007f: 12).

The emergence of the digital dividend also implies a major change in the regulatory model of the upper part of the UHF band, which will be managed differently, facilitating access to the resource. The harmonisation of the digital dividend throughout the EU entails the legislative harmonisation in accordance with the 2009 reform, which is envisaged to consolidate the creation of a spectrum market and the principles of technological and service neutrality.

From a formal perspective, the tenets of WAPECS are addressed in the 2009 electronic communications regulatory framework reform, and specifically in Directive 2009/140/EC, which consolidates the principles of competition and technological and service neutrality. The WAPECS also plans to reinforce flexibility in management and facilitate spectrum access, to enable users to choose the best applicable technologies and services in the frequency bands.

The Commission's liberalising aspirations to implement in the digital dividend band flexible and neutral models typical of the WAPECS are countered by the concerns expressed by the Council of Europe and the Parliament regarding the social and democratic impact of such a flexible and progressive approach.

The 2008 European Parliament Resolution on Communication Commission "Reaping the full benefits of the digital dividend in Europe: a common approach to the use of spectrum released by the digital switchover", took into special consideration the efforts made by broadcasting agencies to advocate pluralism

and democracy. Along these lines, the Parliament asserted that the digital dividend ought to give those agents the opportunity to develop their services for the promotion of those values. Contrary to what was initially proposed by the Commission, the Parliament believed that the audiovisual sector ought to be a central focus in the European approach to this new space. Digital dividend management should foster and protect the public interest objectives promoted by the audiovisual and media policies, such as freedom of expression, pluralism and cultural and linguistic diversity (European Parliament, 2008).

The Council of Europe also expressed its opinion regarding the Commission's plans. In a Declaration "Public interest on digital dividend management" adopted in February 2008, the Council proclaimed the public nature of the digital dividend, advising that the technical and legislative decisions of the new digital environment must not be determined solely by economic factors, but rather must also take into account social, cultural and political aspects. For the Council, a balance between economic interests and the public interest was essential. In its approach to the digital dividend, the Council of Europe took into account the promotion of innovation, pluralism and cultural and linguistic diversity. In particular, the Council reminded the national authorities of their duty to provide for the needs of broadcasters and the media in general, as this would enable the digital dividend to offer society a large number of diversified media services (Council of Europe, 2008).

In a word, two conflictive issues will need to be reconciled for the harmonisation of the digital dividend in Europe. The first of these is the reluctance of member states in the face of any EU action on the spectrum, as they consider the spectrum to be an inherent part of their territorial sovereignty. The second resides in the fact that the UHF band has traditionally been assigned to broadcasters, a powerful and extremely influential sector for government agendas. In this situation, any European proposal for

harmonisation and the opening of the 800MHz sub-band to uses other than broadcasting must be approached with caution.[9]

Although at the time that this thesis was completed – December 2009 – the Commission had not directly voiced its opinion on this issue, an official Decision on the harmonisation of the 800MHz band is anticipated during the first semester of 2010, requiring member states to open the digital dividend to communications services other than broadcasting. Only in cases in which a state decides to do so freely, will it be obligated to attribute such services to the harmonised 800MHz sub-band. In other words, the Commission would opt for a compromise, allowing national policy to decide on whether or not to open up the digital dividend to other types of communications, and should the state decide to do so, it would then be obligated to provide the aforementioned wireless services on the 800MHz sub-band. Formally, the Commission would not force member states to open up the 800MHz band to other electronic communications. However, from an informal standpoint, the EU executive powers themselves are indeed pushing the states towards opening up the digital dividend by extolling the socio-economic benefits that such a decision could provide to the entire Union, thus creating some pressure.

The United Kingdom and Spain in the face of the harmonisation of the digital dividend

Having analysed the strategies for digital dividend harmonisation in the European Union, we must now turn our attention to the member states' position regarding this issue, particularly if we bear in mind the changes in spectrum planning and national management that may be necessary for the application of such measures.

Bearing in mind at all times the national autonomy of the member states in the definition of DTT policies, we will focus on the impact of European

[9] This was stated by Philippe Lefevbre, the European Commission Representative at the RSPG. (December 2009)

harmonisation on the United Kingdom (UK) and Spain. This choice of countries was spurred by several factors. Firstly, both countries are among Europe's five major audiovisual markets, alongside Germany, France and Italy. Secondly, both the UK and Spain structurally depend on the terrestrial network, meaning that the digitization of the network is a complex and costly process. Finally, we must recall that along with Sweden, the UK and Spain were pioneers in the introduction of the DTT in Europe.

The aim of this section is to examine the reactions of the British and Spanish authorities vis-à-vis the Commission's EU-wide digital dividend harmonisation plans, which also take in a change in the management model for the UHF sub-band.

The United Kingdom

The United Kingdom was one of the first countries in the EU to introduce digital television in Europe, in 1998. With a markedly economic and industrial tone, the British DTT policies are characterised by their level of coordination and planning and the adoption of liberalising positions. The British digital switchover has been extensively studied by COLLINS (2002); GALPERIN (2004); GOODWIN (2005) and GARCIA LEIVA (2008).

Digital television was introduced in the United Kingdom in mid 1995 with the publication of the Department on National Heritage White Paper "Digital Terrestrial Broadcasting: the Government's Proposals". This document would determine the development of digital television in the UK in two aspects, establishing both the regulatory framework and the political goals to be achieved. The United Kingdom DTT model was characterised by its eagerness to free up spectrum and its centralised structure that would facilitate the emergence of the digital dividend.

Among other policy objectives, the White Paper emphasised the improvement of spectrum efficiency once the analogue switch-off is complete (GOODWIN, 2005). In the mid 1990s, the release of a portion of the radio network already formed part of the DTT political agenda in the UK. From the

British perspective, the introduction of DTT was viewed as an opportunity to free up spectrum and change the network management model. An example of this can be seen in the publication of "A review of radio spectrum management," which revolutionised radio spectrum regulation in the Anglo-Saxon country (CAVE, 2002).

The DTT model also makes reference to the fact that the authorities established a state and pseudo-regional architecture. The British structure differs from the Spanish structure, with a heavy presence of regional and local multiplexes and therefore a higher level of spectrum occupancy for the broadcasting services. The broadcasting networks in the United Kingdom, on the other hand, occupy a small portion of the spectrum, meaning that the digital dividend can potentially be larger.

In 2003, before Ofcom was established, UK Government decided to release a digital dividend of 112MHz for new users. The plan developed envisaged this dividend should comprise two distinct bands of spectrum: a smaller, upper band of 48MHz at 806-854MHz (channels 63-68) and a larger, lower band of 64MHz between 550MHz-630MHz (channels 31-35, 37 and 39-40), (see figure below).

Figure 4.2. UK Digital Dividend: UHF frequency channels

21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	48	49
50	51	52	53	54	55	56	57	58	59
60	61	62	63	64	65	66	67	68	69

Freed-up channels

Under the Communications Act of 2003 Ofcom's most important objectives is to ensure the optimal use of the radio spectrum. A clear strategy for the way in which UK will release this spectrum was set out through the Digital Dividend Review (Ofcom, 2006, 2007).

As regards the United Kingdom, the Commission's proposals on the harmonisation and opening of the 800MHz band were received by a country that was steadfast in its defence of national interests, and more so if we consider that the British legislation had already implemented measures similar to those that Europe was promoting. England was a pioneer in the adoption of new spectrum management models. This is apparent in both the Wireless Telegraphy Act of 2006, which introduced a more flexible spectrum regulation and market; and in the creation of the Ofcom, which envisages a market approach to the digital dividend.

Generally speaking, the United Kingdom has no objection to the Commission's publication of a formal decision on the technical measures to be taken for the release of the 800 MHz band and its harmonisation throughout Europe. In fact, the British government undertook this very commitment during World Radiocommunications Conference 2007 (WRC-07). Thus, the decision to open up this band was made internally by the UK within the framework of the ITU, rather than the EU. While they are in favour of the release of the 800MHz band, the British authorities do not believe that the Commission should obligate the states to release a specific band by a certain deadline (Department for Business, Innovation & Skills and Ofcom, 2009).

As regards the Commission's wish to adopt a common European position at the next WRC, which will be held in 2012 (European Commission, 2009), the British authorities made it clear that their negotiations will be conducted bilaterally and independently from the Commission. Once again, we can see the difficulties faced by the EU in its attempts to speak with a single voice at international forums.

By way of conclusion, the emergence of the digital dividend in the UK is clearly the result of a coordinated and strategic implementation of public policies on digital television. Thus, a future European harmonisation of the 800MHz sub-

band would be particularly problematic for the British authorities (see table below).

Table 4.3. EU harmonization on Digital Dividend and DTT in United Kingdom

CHANNEL	FREQUENCIES	NATIONAL PLAN
61	790-798MHz	DTT Multiplex
62	798-806MHz	DTT Multiplex
63	806-814MHz	UK Digital Dividend upper band
64	814-822MHz	
65	822-830MHz	
66	830-838MHz	
67	838-846MHz	
68	846-854MHz	
69	854-862MHz	PMSE *Programme making special events*

Spain

One of the main features of the digital switchover in Spain is the lack of in-depth public debate on the issue. This is manifest in the chaotic, scattered and confusing nature of the existing regulatory framework on the issue (SUAREZ, 2009; CABALLERO, 2007; GARCIA LEIVA, 2008). One of the particularities of the Spanish DTT model is linked to its national, regional and local levels, stemming from the country's highly decentralised structure. This situation essentially forced the spectrum to accommodate operators from different geographical areas. In Spain, there was no consideration for the existence of the digital dividend until mid 2009.

The Spanish DTT policy is characterized by limited planning and a highly fragmented legislative system that has marked the transition process with uncertainty. This has been compounded by the lack of an authority for the audiovisual sector. From day one, Spain's digital terrestrial television policy has been ruled by two factors: the decentralization of the broadcasting network and the lack of foresight in the release of part of the spectrum following completion of the transition process. Indeed, the allocation of the UHF band to broadcasting services has been the prevalent trend in Spain. Moreover, because the country's authorities have failed to consider the possible release of spectrum or the ensuing opening of the space to communications services other than broadcasting, it is the European Union that will be guiding the Spanish authorities in this direction.

The high decentralization of the Spanish broadcasting network led the government to acknowledge that it would be difficult to follow the European trend of opening up the digital dividend to electronic communications services, as the spectrum is completely occupied by broadcasters (see table below).

Table 4.4. EU Harmonization on Digital Dividend and DTT in Spain

CHANNEL	FREQUENCIES	NATIONAL PLAN
61	790-798MHz	DTT Multiplex
62	798-806MHz	DTT Multiplex
63	806-814MHz	DTT Multiplex
64	814-822MHz	DTT Multiplex
65	822-830MHz	DTT Multiplex
66	830-838MHz	DTT Multiplex
67	838-846MHz	DTT Multiplex
68	846-854MHz	DTT Multiplex
69	854-862MHz	DTT Multiplex

The position of the Spanish authorities with regard to this issue sparked a reaction in the EU, which searched for explanations for the imbalance in the distribution of the newly released frequencies. This led to the informal pressures of the EU and particularly of the national telecommunications industry, in addition to the Spanish Telecommunications Market Commission (CMT) report on the Spanish public broadcaster, *Radio Televisión Española* (RTVE), funding bill. Despite its open disapproval of the draft bill, the CMT justified the introduction of a telecommunications tax as long as there was an inherent advantage in the tax for the sector, for example, allowing the telecommunications sector to use a portion of the UHF band, within the digital dividend, that would foster the launch of mobile broadband services.

The different statements of the Commission in favour of opening the 800MHz band for all types of services, along with the CMT report, spurred the Spanish authorities to commit to opening the 800MHz band to all types of communications by 2015. Specifically, the Draft Law on Sustainable Economics sets forth that "the 790-892MHz frequency band will be used principally for the provision of advanced electronic communications services, in keeping with any harmonized uses established by the European Union" (art.6.1). There are

important repercussions to the *in extremis* introduction of the digital dividend in Spain, leading to a re-planning of the UHF band, as the European harmonized frequencies, 790-862MHz, have already been assigned to public and private broadcasters with national coverage.

In conclusion, we have seen the different ways in which these two countries have reacted to the proposal for the European harmonization of the 800MHz band. For its part, the United Kingdom did not openly object to the Commission's plans, however it was sure to assert conditions, such as the refusal to set a deadline date for the opening of the band. Moreover, the United Kingdom was also steadfast in its defence of national interests, placing them above those of Europe. The UK's independence in terms of radio spectrum policy sharply contrasts with Spain, which has adjusted its national policy – unilaterally and with no public debate – to the demands of the EU, much despite the technical and economic difficulties involved in releasing the 800MHz band in this country. In a word, the miscalculation, which could not be attributed to the Spanish authorities, as the European Union had not pushed its plans forward with sufficient advance notice, could lead to a far more costly digital transition process in Spain – both economically and socially – than in the other European countries, which had already foreseen the emergence of the digital dividend, the 800MHz sub-band of which is now the object of the Commission's harmonisation plan.

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