

**A comparative analysis of the electricity and  
telecommunications regulations of the UK and  
Germany - cross country and cross sectoral  
lessons**

**by Győző Pintér**

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**University of East Anglia  
UEA Law School**

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## **Abstract**

The lack of complete harmonization at EU level during the electricity and telecommunications reforms allowed for regulatory competition between the Member States. The aim of the thesis is to explore what regulatory lessons can be learnt out of the comparison of the different regulations of the UK and Germany. The major differences between these regulations concern:

- 1) unbundling,
- 2) regulatory authorities and
- 3) Significant Market Power (SMP) regulation.

Chapter 1 gives a general basis, through the analysis of the specific regulatory outcomes (prices, market shares and consumer satisfaction) then a more qualitative analysis of the separate legal issues above is carried out in Chapters 2, 3 and 4.

Chapter 2 focuses primarily on past regulatory differences in vertical separation of the network: in general a more separationist approach in telecommunications than in electricity. We found that this difference is justified since stronger separation correlated with more companies challenging the incumbent in the electricity sector, while we found no evidence for this in the telecommunications sector.

Chapter 3 assesses whether the UK could benefit from the creation of a super-regulator similar to Germany's Bundesnetzagentur, by merging Ofgem (the energy regulator) and Ofcom (telecommunications regulator). We found that since there is no visible convergence yet between the energy and telecommunications sectors, it would only make sense to merge the UK regulators if this would lead to enhanced cost-effectiveness.

Chapter 4 assesses the difference between the electricity and the telecommunications regulation in terms of the use of SMP regulation. SMP regulation is an integral part of the telecommunications regulation, but the concept is not applied in the electricity regulations. We assess whether SMP regulation could benefit the electricity regulations. The conclusion is that the introduction of an SMP-style regulation could be a practical, politically feasible and potentially beneficial alternative solution.

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# I. Introduction

## 1. Outline of the thesis

Reforms in the EU network industries have now been going on for about 20 years (and even longer in the UK) with different success in terms of creating competition. The lack of complete harmonisation at EU level during this time allowed for regulatory competition between the Member States.<sup>1</sup> Arguably, achieving full harmonisation in a single step at the beginning of the reforms by EU law in a given field may actually prove rather disadvantageous and unlikely to be politically achievable. Allowing for the implementation of different regulatory options means that several regulatory solutions can be tried, and then the most efficient ones can later be selected and made compulsory.<sup>2</sup> This environment also provides good opportunity for comparative regulatory research.

The aim of the thesis is to explore whether regulatory solutions could be adapted from one sector/country to another in order to improve its competitiveness. This is done by comparing different solutions applied in the UK and Germany.<sup>3</sup> The reason for choosing these countries is that they are comparable in terms of size and development of their economies, while their laws in many respects differ significantly, which allows an analysis of the effects of different rules.

Accordingly, the actual regulatory issues this thesis analyses are the major differences between the regulations that apply to these countries' electricity and telecommunications sectors. These are:

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<sup>1</sup> CF Daniel C. Esty, Damien Geradin, 'Regulatory co-operation' (2000) 3 *Journal of International Economic Law*, 235, 236

<sup>2</sup> Pierre Larouche, 'Coordination of European and Member State regulatory policy. Horizontal, vertical and transversal aspects' (2004) 5 (3-4) *Journal of Network Industries*, 277, 280

<sup>3</sup> Generally the EU enacted directives which has to be implemented by the Member States.

- 1) unbundling of the networks (which are arguably natural monopolies and therefore bottlenecks in the sectors),
- 2) features of the regulatory authorities and
- 3) the use of significant market power (SMP) regulation.

The thesis comprises of two retrospective chapters (Chapter 1 and Chapter 2) and two forward-looking ones (Chapter 3 and Chapter 4). Chapter 1 sets the scene and gives the general basis, through the analysis of the specific regulatory outcomes (namely prices, market share and consumer satisfaction) then a more qualitative analysis of the separate legal issues is carried out in Chapters 2, 3 and 4. Among these, Chapter 2 focuses primarily on past regulatory differences, while Chapter 3 and 4 looks at some regulatory solutions' possible future applicability.

### **1.1 First Chapter (Regulatory outcomes)**

In order to be able to provide recommendations on preferable regulatory solutions, two issues need to be understood first:

1. which solutions (in which sectors) are associated with better outcomes and
2. to what extent are these results connected to the regulation itself.

Chapter 1 therefore seeks to answer these questions by assessing the outcomes of the reforms (based on price, market share and consumer satisfaction tendencies), at the same time searching for correlations between changes in the regulatory solutions and the regulatory outcomes, i.e. whether there are signs of the regulation affecting the outcomes.

According to the assessment of price and market concentration tendencies, the telecommunications reform seems to have the best trends in both countries concerned. The electricity reforms appear less successful: however the tendencies in the UK's electricity sector are still much better than the German's (especially in the early stages). The assessment of the consumer surveys' results is less

straightforward which may be the result of this data being based on subjective perceptions.

The analysis has found limited evidence for changes in the regulatory solutions correlating with the data. This does not mean that the different regulatory solutions have no measurable effect, but rather that in order to be able to evaluate these regulatory solutions a more qualitative approach is necessary. This leads to the next three chapters.

## **1.2 Second Chapter (Unbundling)**

The aim of this chapter is to assess whether increasingly stricter separation of the networks in the electricity sector, and predominantly simple access regulation in telecommunications, is justified, or whether stricter separation (like in electricity) would benefit the telecommunications sector.

The assessment is done in two parts. The first part looks at the theory behind vertical separation and concludes that – while integration can lead to enhanced efficiency – more separation should lead to better access to the networks in both sectors.

The second part tests this in practice. The second part describes the regulatory developments in the UK and Germany and assesses whether the incumbent's market share (which in practice is arguably the most relevant indicator<sup>4</sup>) shows correlations with past regulatory changes. The assessment finds that in electricity stricter regulation is followed by the incumbents' market share loss, but there is no evidence for this in telecommunication, which justifies the different policies for the

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<sup>4</sup> Regulators and competition authorities rely on market shares when analysing market power and competition on a market. Besides, other factors relevant for the analysis (entry barriers, buyer power etc.) are not hugely different in the two countries.

sectors. This is likely to be the result of the different techno-economic factors, which signals the importance of non-regulatory features. In the electricity sector, the network is still a true natural monopoly, while in telecommunications the network-based services are more and more contested by different infrastructure, and different technologies which is a great advantage from the perspective of competition.

### **1.3 Third Chapter (Institutions)**

If the regulation affects the regulated sector, than the institution responsible for the enforcement of the regulation may also have an effect on it, and improving the regulatory authority itself may enhance competition and benefit consumers.

It can be established that currently, the UK operates single sector regulators in comparison to Germany's multi sector regulator.<sup>5</sup> However, there is a tendency leading towards multi sector regulators in both countries. This raises several questions: what is the reason behind this trend of merging regulators? Are multi sector regulators superior? If they are superior, why did EU countries start merging regulators just now instead of creating them right at the start of the reforms? Would the UK be better off by creating a multi sector regulator, like the Bundesnetzagentur? In answering these questions, the paper provides a framework of key institutional issues:

- independence (especially being able to act free from political pressure),
- accountability (to make sure the regulator is working to achieve the goals set for it),

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<sup>5</sup> In the UK there are two separate regulators for energy (electricity and gas) and telecommunications (electronic communications), in Germany one regulatory authority is responsible for the regulation of these two as well as a number of other sectors

- ability to resist capture (by capture the paper means capture from the industry, which leads to the regulator focusing more on benefitting the industry participants, then benefitting the consumers),
- regulatory quality,
- costs (efficiency).

The chapter assesses how the different structural setups (single vs. multi sector regulators) influence the key institutional variables.

The analysis suggests that single and multi-sector regulators have both important pros and cons. For example a multi sector regulator is likely to achieve higher regulatory consistency, but can cater less for the different sectors' different needs, or a multi sector regulator may be more resistant to capture but in case the regulator fails that has an impact on all the sectors governed.

However, the pros can be maximized and the cons minimized by creating single sector regulators first and merge them as the markets mature. As an example: capture takes time to develop, therefore the ability of resisting capture is less important initially. At the same time an inexperienced regulator is more likely to fail, therefore it makes sense to spread the risk initially. If the mergers are timed correctly (when there are clearly predictable benefits), the changes they bring will follow the changing institutional needs of the developing sectors.

In terms of the UK we find that currently there seems to be no clear benefits out of a merger between Ofgem and Ofcom, therefore following the German example would not yet be justified.

## **1.4 Fourth Chapter (SMP regulation)**

SMP regulation is in a sense a hybrid of competition law and regulation.<sup>6</sup> It was designed to enable regulatory intervention in a flexible way until competition becomes strong enough to make such interventions unnecessary.

One main general (i.e. EU-wide) regulatory difference between the electricity and telecommunications regulations is that the latter uses SMP regulation, while the former does not (except in Hungary). At the same time there is a growing political pressure for “change” in the way the electricity sectors are currently working (even in the UK, which is a pioneer in the area). The chapter assesses whether SMP regulation could provide a solution for the electricity sector. The paper introduces SMP regulation and discusses its pros and cons and then compares SMP regulation to the other major possible solutions; competition law only, government intervention, and ordinary regulation.

The conclusion is that the introduction of an SMP-style regulation could be a practical, politically feasible and potentially beneficial alternative of these other solutions.

## **2 Significance and originality**

The research concerns two sectors: electricity and telecommunications. The importance of these sectors – and, therefore, the research undertaken in this field – is highlighted by the fact that the telecommunications and electricity sectors each

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<sup>6</sup> Alexandre De Stree, ‘The new concept of “significant market power” in electronic communications: the hybridisation of the sectoral regulation by competition law’ 2003, 24(10) European Competition Law Review, 535

produce an input which is essential for almost the entire economy. Accordingly, if these sectors became more efficient, the respective cost for the rest of the economy decreases, which makes consumers directly better off, and enhances the European economy's potential to compete internationally. Both sectors are explicitly of key significance for the EU. As energy is crucial for the European economy, the EU identified the issue as one of its top priorities, and as a matter of fact approximately 500 million consumers are affected by the EU reforms. Furthermore, the European telecommunications industry is the "backbone of Europe's developing information society and the digital economy" and it is used more and more extensively by individuals and business users.

The efficiency of these sectors depends on many different (technological, economic, legal etc.) factors. This thesis focuses on the legal side of the subject. Generally speaking – the telecommunications reforms in Europe are considered to be more successful than the electricity reforms<sup>7</sup> which perhaps mean that there is more scope for electricity to learn from telecommunications, than the other way around. The overarching theme of this thesis is to improve the regulation applied for these sectors by drawing conclusions from the comparisons that can be made by virtue of the regulatory competition in existence, taking into account the different features of the sectors.

While harmonisation is one of the major goals of the EU, achieving full harmonisation in a single step by enacting EU law in a given field may actually prove rather disadvantageous. The lack of harmonisation at EU level, and the regulatory competition that can arise out of this, offers an interesting environment to experiment with different regulatory solutions. It would appear that less harmonisation and regulatory competition is beneficial at the beginning of a

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<sup>7</sup> CF F. Trillas, "Electricity and Telecommunication Reforms in the EU: Insights from the Economics of Federalism." (2010) IESE Working Paper WP-861. 17, Nicoletti, P. C. G. (2006). "Product Market Regulation in the Non-Manufacturing Sectors of OECD Countries: Measurement and Highlights." OECD Economics Department Working Papers No. 530. 19

reform, when it is hard to forecast which rules are going to be more advantageous. In time, however, the results of the industries should justify the superiority of one legal solution to another and the national rules should be further harmonized in accordance with the best previous national practices.<sup>8</sup> The EU sector reforms followed this approach; the introduction of permissive EU regulation, that had options for different regulatory solutions, became more and more harmonized.

The flexibility in the EU regulations gave scope for different regulatory solutions to be applied in the Member States, leading to a kind of regulatory competition between them. This regulatory competition gives a unique research opportunity to compare different solutions, solutions that have actually been applied in practice (see the different regimes for vertical separation) which means that their track records can be compared. Quantitative data can be used to assess these regulation, although in areas where a hypothetical future application is considered a more qualitative analysis is needed relying on the existing literature.

The body of literature that looks at the EU reforms is well developed in general, although, while there are numerous studies concerning the telecommunications reforms, the literature on the electricity reforms is considerably scarcer. There are comparative studies with different focus (legal, economic, political science or mixed), but these tend to compare electricity to gas rather than telecommunications. This thesis fills a gap in the literature by providing a comparative legal analysis, contrasted with empirical data (where possible), in the field of electricity and telecommunications regulations of the UK and Germany. They are two of the largest and most developed economies in Europe and, therefore, represent important players within the EU regime. The thesis also offers a unique approach since the research is interdisciplinary: while the primary focus is on the legal element, it is backed by economic and political science.

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<sup>8</sup> Pierre Larouche, 'Coordination of European and Member State regulatory policy. Horizontal, vertical and transversal aspects' (2004) 5 (3-4) *Journal of Network Industries*, 277, 280

### 3 The research questions

The actual regulatory issues we look at are the ones where there are major differences between the regulation of the countries concerned and, therefore, where different legal solutions can be compared. These are:

- 1) unbundling of the networks (which are arguably natural monopolies and therefore constitutes bottlenecks in the sectors),
- 2) features of the regulatory authorities and
- 3) the use of significant market power (SMP) regulation.

*Ad. 1:* Essentially, in terms of vertical separation the UK opted for more comprehensive reforms, while – especially initially – Germany introduced arguably the weakest regulations in the EU. In terms of the electricity sector, the UK carried out strict vertical separation at the beginning of the reforms (1989) between the generation (competitive) and transmission<sup>9</sup> (monopolistic) levels, and later on the distribution (monopolistic) and supply (levels)<sup>10</sup> while in Germany the sector remained integrated until EU law made separation compulsory (transmission until 2005 and distribution 2007).<sup>11</sup> Moreover, a system of negotiated third party access was initially used to ensure access to the production levels that were the bottlenecks of the sector (this option was later withdraw by EU law and only regulated third party access remained possible).

The same attitude can be observed in the telecommunications reforms of the two countries: in the UK the telecommunications sector the network parts have been functionally separated,<sup>12</sup> while in Germany no separation has been carried out.

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<sup>9</sup> By the Electricity Act 1989

<sup>10</sup> By the Utilities Act 2000

<sup>11</sup> Energy Act of 2005 (Energiewirtschaftsgesetz)

<sup>12</sup> BT Undertakings 2005

*Ad. 2:* In the UK, a separate regulator was established at the beginning of both the electricity and telecommunications reforms: Offer for electricity and Oftel for telecommunications. Also, in Germany a regulatory authority was made responsible for the regulation of the telecommunications sector. Interestingly, in the German electricity reform they experimented with a solution that did not include the establishment of a regulatory authority. In theory, this self-regulation in a “club” arrangement – as was the case in Germany – could be beneficial. The outcome of the experiment, however, seems to prove the contrary: the experiment did not turn out to be successful at all. Later on, in line with the EU requirements, an electricity regulator was set up in Germany as well. Germany is still a special case though, as the regulator that was established is responsible for the electricity, gas, telecommunications, postal and railway markets, altogether. Regulatory mergers took place in the UK as well: Offer merged with Ofgas (the gas regulator) creating Ofgem a regulator responsible for the energy industry as a whole, and Oftel merged with the Radiocommunications Agency (who regulated the mobile sector together with Oftel), and the Broadcasting Standards and Independent Television Commission thereby Ocfom was created which regulates the communications industry. These merged regulators still regulate a much narrower field than the German Bundesnetzagentur.

*Ad 3:* The use of SMP regulation differs between the sectors concerned even on the EU level (in this respect there is no major difference between the UK and Germany but only between the sectors concerned): it is a key part of the telecommunications regulation, but none of the Member States (except for Hungary) uses SMP regulation as part of their electricity reform.

The research questions concern the regulatory differences detailed above. Accordingly there are three main questions:

- Is the different attitude towards separating the network in the electricity regulation and the telecommunications sector justified as far as access is concerned?
- Are multi sector regulators superior to single sector regulators? Is merging the regulators a good strategy?
- Could SMP regulation provide a solution for intervention in the electricity sector?

#### **4 The method used**

The thesis uses a comparative method in order to evaluate the certain regulatory solutions' their role in a successful network utilities reform. Different legal solutions may suit better different sectors. Cross-sectoral comparison is carried out to see if the same sort of regulation seems to be beneficial in general. Cross-country comparison is undertaken in order to be able to analyse different regulatory solutions in the same sectors.

There is a trade-off between the number of countries concerned and the depth of the research when the resources for the research are fixed. This thesis considers only two countries, which allows for more detailed analysis. Choosing the UK was based on the fact that the reforms here started earlier than in any other EU Member State, therefore they are perceived to be in the most mature state. The reason for choosing Germany as the second country was that this way we concern countries that are comparable in terms of size and development of their economies, while their laws (in terms of vertical separation/access regulation, and their ways of creating regulatory authorities) contrast significantly, thus allowing an analysis of the effect of these different rules.

The research questions are answered by different methods. The first two chapters concern primarily past developments. Since these chapters are more backwards looking there is more scope for using quantitative data. The last two chapters,

however, concern fairly recent/possible future solutions, therefore the analyses in these chapters are different, more qualitative. The following section outlines the methodologies by chapters:

#### **4.1 Chapter 1**

In order to be able to show what sort of regulatory solutions are necessary for a successful reform in Chapter 1 the sectors are analysed in terms of their results first. There are many ways these reforms can be assessed, but there is no single “generally accepted” method.<sup>13</sup> In this chapter price, market share tendencies and consumer satisfaction are used. This is because these indicators are widely used by both public bodies and academics when assessing the reforms.

The research is based on existing data retrieved from various sources: databases, published papers, regulators’ publications/annual reviews etc.

Besides giving an overview of the regulatory outcomes the chapter undertakes to analyse whether there are (strong) correlations between regulatory changes and changes in the outcomes. Firstly, a catalogue of the major changes in the regulatory issues concerned has been prepared. The relevant part of this catalogue has then been contrasted to the data. The aim is to assess whether regulatory changes aiming to enhance competition were actually followed by lower prices, lower market concentration and higher consumer satisfaction.

#### **4.2 Chapter 2**

The second chapter concerns vertical separation and access regulation answering the first research question (“is the different attitude towards separating the

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<sup>13</sup> Lesley Davies, Kathryn Wright, Catherine Waddams, ‘Experience of Privatisation, Regulation and Competition: Lessons for Governments’ CCP Working Paper 05-5, 5

network in the electricity regulation and the telecommunications sector justified as far as access is concerned?”). In answering the research question the paper considers theory and then this is contrasted to the practical results.

The first part of the chapter analyses the logic behind vertical separation in order to facilitate access to the network, based on the existing literature. In the second part the countries’ past experiences with different kinds of vertical separation is described, and then this is contrasted to the actual track record of these regulations to see whether the expectations (based on the theoretical analysis in the first part) can be shown to materialize in practice. Data on market structure are taken from Chapter 1 and then the chapter assesses whether increased vertical separation was followed by less concentration (higher entry).

### **4.3 Chapter 3**

This chapter looks at the different means in which a regulatory authority can be established (or not established at all) answering the second research question (“Are multi sector regulators superior to single sector regulators? Is merging the regulators a good strategy?”). Since this chapter concerns relatively recent developments and possible future application of a regulatory solution (creating multi-sector regulators) the analysis in this chapter is predominantly qualitative. The chapter uses a series of regulatory “values” (independence, accountability, capture, cost, regulatory quality) as proxies, and analyses how these change through the suggested institutional change. This way a list of pros and cons of the multi-sector authorities is created. Based on these pros and cons, further analysis leads to a roadmap that can be used to maximize the benefits out of institutional changes.

## 4.4 Chapter 4

The last chapter analyses the applicability of SMP regulation in the electricity sector answering question 3 (“Could SMP regulation provide a solution for intervention in the electricity sector?”). The crucial issue here is to assess whether the solution would be suitable to the electricity sector, or its features make it too specific for the telecommunications sector. In order to analyse this issue, based on the existing literature the chapter first provides an overview of the key strengths and weaknesses of SMP regulation (as it is applied in the telecommunications sector). Building on these pros and cons, the next part analyses how SMP regulation could be used in the electricity sector to see whether the different features of the electricity sector would likely to put more emphasis on the pros/cons (relative to telecommunications). Lastly, the analysis compares SMP regulation to other possible kinds of interventions in the electricity sector to see SMP regulations strengths and weaknesses vis a vis other solutions.

## **II. Chapter 1: Evaluating the regulatory reforms and the connection between regulation and the outcomes of the reforms**

### **Abstract**

The thesis concerns different legal aspects of the electricity and telecommunications reforms in the UK and Germany. This chapter is dedicated to provide an overview of the regulatory changes concerned throughout the reform process and the outcomes of the reforms.

More specifically in order to be able to provide recommendations on preferable regulatory solutions, two issues need to be understood:

- whether outcomes are better in the telecommunications sector or in the electricity sector and whether (on this basis at least) one can potentially learn from the other,
- to what extent are these results connected to the regulation itself.

Therefore, these are the research questions addressed in this chapter.

This paper undertakes to answer these two questions as the following. The first part is setting the scene by providing an overview of regulatory solutions applied in the sectors concerned. The next part is assessing the outcome of the reforms based on price, market share and consumer satisfaction tendencies, at the same time searching for correlations between changes in the regulatory solutions and the regulatory outcomes. The connection between the regulation and those indicators is quite complex mainly because there are many other factors (besides regulation) that affect them.

Based on the previous parts, the analysis in the third section compares the tendencies of the different outcomes (prices, market concentration and consumer

satisfaction) and then assesses the connection between the outcomes and regulation. The analysis finds that tendencies in the telecommunications sectors reflect the initial expectations towards the reforms more than in electricity, however the limited correlation between regulatory changes and the data signals the importance of non-regulatory (technical, economical etc.) factors, in other words the limited scope for regulatory solutions to affect prices, the structure of the market and consumers' opinions.

## **1 Introduction**

By now, the reforms concerned have around 20 years of history in the EU in general and they have been going on even longer in the UK. During this period the regulations went through several changes.

There is also plenty of data available regarding the sectors concerned, which gives an opportunity for the quantitative assessment of these reforms. Out of the different data available, we are using prices, market shares and consumer satisfaction. In analysing whether one regulatory solution is better than another such an assessment provides a crucial background. Since the data is defined by many factors (out of which the regulation is only one) it is complicated to connect regulatory changes with trends in the data. However, regulatory changes followed by the expected beneficial tendencies in practice gives a general indication on where to look for regulatory lessons.

This leads to the next issue: the need for assessing correlations between the regulatory changes and changes of trends in the data. Strong correlations suggest strong and more exclusive connections between the regulations and the tendencies. This would suggest that simple quantitative methods are sufficient to assess regulatory solutions. Weaker correlation indicates a need for a more qualitative approach.

The following sections are concerning the issues above. First the chapter gives an overview of the regulatory changes then it presents and discusses the data. This is followed by the analysis which compares and contrasts the tendencies of the

different outcomes concerned (prices, market shares and consumer satisfaction, which are assessed separately in the previous section) to answer the research questions.

## **2 Regulatory changes**

### **2.1 EU law**

This thesis is devoted to analyse the outcomes of certain regulatory competition, by comparing some Member States experiences with different rules. It is, however, helpful to start with a brief overview of the EU regulation. This is because – due to the supremacy of EU law – there is a limit on the Member States’ freedom of enacting regulations for electricity and telecommunications.

#### **2.1.1 Electricity**

##### ***First stage***

The electricity reform in the EU started with Directive 96/92/EC “Electricity Directive”. The directive prescribed accounting separation (art. 14) for the different levels of the integrated electricity companies and at least management separation for the transmission level (art. 7). According to the directive Member states could choose between a negotiated and a regulated approach in terms of providing access to the networks (art. 16). Lastly, the directive required Member States to create efficient mechanisms to regulate the markets and monitor them to detect abuses (art. 22).

## ***Second stage***

The second stage<sup>14</sup> of the reform is marked by Directive 2003/54/EC. In the second stage the unbundling of both network levels (transmission and distribution) was reinforced; integrated electricity companies had to carry out legal separation of the networks: according to art. 10 transmission and according to art. 15 distribution had to be independent „at least in terms of its legal form, organisation and decision making“. Furthermore the directive ordered Member States to implement a system of third party access to the network levels, which is based on published tariffs (art. 20). The requirements towards regulatory institutions became stricter as well. The legislation now mandated that Member States had to create regulatory authorities that are independent from the industry (art. 23). The directive furthermore ordered full market opening for non-household customers by 1st July 2004 and household customers by 1st July 2007 (art. 21).

## ***Third stage***

The third electricity package<sup>15</sup> entered into force in September 2009. Member States had to transpose it into national law within 18 months. It requires stronger

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<sup>14</sup> Regulation 1228/2003/EC was introduced in the same year containing provisions on cross-border exchanges.

<sup>15</sup> The third package consist of the following directives and regulations:

Directive 2009/72/EC 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC

Directive 2009/73/EC of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC

Regulation (EC) No 713/2009 of 13 July 2009 establishing an Agency for the Cooperation of Energy Regulators

separation: transmission network operators had to carry out ownership separation, or operate as an independent system operator or independent transmission operator. The directive also mandated stronger powers and more independence for the regulatory authorities.

## **2.1.2 Telecommunications**

### ***Stage 0***

In 1990 two pioneering directives<sup>16</sup> already signalled a move towards the reforms, calling for more competition and introducing the concept of the Open Network Provision, however the sector has yet been fully liberalised.

### ***Stage 1***

The next stage consists of a series of directives enacted between 1996 and 1999.<sup>17</sup> The full liberalisation of the telecommunications sector has been carried out by the

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Regulation (EC) No 714/2009 of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity and repealing Regulation (EC) No 1228/2003

Regulation (EC) No 715/2009 of 13 July 2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) No 1775/2005

<sup>16</sup> Council Directive 90/387/EEC of 28 June 1990 on the establishment of the internal market for telecommunications services through the implementation of open network provision,

Commission Directive 90/388/EEC of 28 June 1990 on competition in the markets for telecommunications services

<sup>17</sup> Directive 1999/64/EC of 23 June 1999 amending Directive 90/388/EEC in order to ensure that telecommunications networks and cable TV networks owned by a single operator are separate legal entities

Full Competition Directive.<sup>18</sup> The Interconnection Directive<sup>19</sup> concerned access to the network through significant market power (SMP) regulation; a concept borrowed from competition law but with an extended reach by the application of a lower threshold.<sup>20</sup> No vertical separation (besides accounting separation) was

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Directive 98/61/EC of the European Parliament and of the Council of 24 September 1998 amending Directive 97/33/EC with regard to operator number portability and carrier pre-selection

Directive 98/10/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 February 1998 on the application of open network provision (ONP) to voice telephony and on universal service for telecommunications in a competitive environment

Directive 97/51/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 6 October 1997 amending Council Directives 90/387/EEC and 92/44/EEC for the purpose of adaptation to a competitive environment in telecommunications

Directive 97/33/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 30 June 1997 on interconnection in Telecommunications with regard to ensuring universal service and interoperability through application of the principles of Open Network Provision (ONP)

Directive 97/13/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 10 April 1997 on a common framework for general authorizations and individual licences in the field of telecommunications services

Directive 96/19/EC of 13 March 1996 amending Directive 90/388/EEC with regard to the implementation of full competition in telecommunications markets

<sup>18</sup> Directive 96/19/EC of 13 March 1996 amending Directive 90/388/EEC with regard to the implementation of full competition in telecommunications markets

<sup>19</sup> Directive 97/33/EC on interconnection in Telecommunications with regard to ensuring universal service and interoperability through application of the principles of Open Network Provision (ONP)

<sup>20</sup> According to Article 4. 3 „An organization shall be presumed to have significant market power when it has a share of more than 25 % of a particular telecommunications market in the geographical area in a Member State within which it is authorized to operate. National regulatory authorities may nevertheless determine that an organization with a market share of less than 25 % in the relevant market has significant market power. They may also determine that an organization with a market share of more than 25 % in the relevant market does not have significant market power. In either case, the determination shall take into account the organization's ability to influence market conditions, its turnover relative to the size of the market, its control of the means of access to end-users, its access to financial resources and its experience in providing products and services in the market.” The 25% threshold is significantly lower than the competition law threshold for dominance, which is set around 40% (with the same reservations).

required. Most Member States created regulatory authorities at this stage of the reform although this was not a requirement under EU law.<sup>21</sup>

### ***Second stage***

In order to make the telecommunications sector more competitive another package was adopted in 2002. This 2002 package consisted of a Framework directive<sup>22</sup> and four special directives.<sup>23</sup> Access regulation was still based on SMP regulation, which was aligned with competition law.<sup>24</sup> Articles 9-13 of the Access directive described the potential obligations which included accounting separation only. In terms of the national regulatory authorities the Framework Directive required all Member States to “ensure that each of the tasks assigned to national

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<sup>21</sup> Although the preamble of the Framework Directive states that “the establishment and administration of the national numbering plan should be entrusted to a body independent from the telecommunications organization”, according to Petit the first requirement in EU law for the creation of a regulatory institution can only be identified in Directive 2001/14 of 26 February 2001 on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification – Cf Nicolas Petit, ‘The Proliferation of National Regulatory Authorities alongside Competition Authorities: A Source of Jurisdictional Confusion’ The Global Competition Law Centre Working Papers Series 02/04, footnote 6

<sup>22</sup> Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services (Framework Directive)

<sup>23</sup> Directive 2002/20/EC of the European Parliament and of the Council of 7 March 2002 on the authorisation of electronic communications networks and services (Authorisation Directive)

Directive 2002/19/EC of the European Parliament and of the Council of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities (Access Directive)

Directive 2002/22/EC of the European Parliament and of the Council of 7 March 2002 on universal service and users' rights relating to electronic communications networks and services (Universal Service Directive)

Directive 2002/58/EC of the European Parliament and of the Council of 12 July 2002 concerning the processing of personal data and the protection of privacy in the electronic communications sector (Directive on privacy and electronic communications)

<sup>24</sup> The 25% threshold has been withdrawn.

regulatory authorities in this Directive and the Specific Directives is undertaken by a competent body”.<sup>25</sup>

### ***Third stage***

The 2002 Telecoms Package went through a series of amendments in 2009 by two Directives; the Better Regulation<sup>26</sup> directive and the Citizens' rights directive<sup>27</sup>. SMP regulation remained standard, but the Better Regulation directive introduced functional separation as a special remedy that a national regulator may apply for firms having SMP.<sup>28</sup> The Better Regulation directive also put more emphasis on the adequateness of national regulatory authorities.<sup>29</sup>

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<sup>25</sup> Framework Directive Article 3. 1.

<sup>26</sup> Directive 2009/140/EC 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

<sup>27</sup> Directive 2009/136/EC of 25 November 2009 amending Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks and services, Directive 2002/58/EC concerning the processing of personal data and the protection of privacy in the electronic communications sector and Regulation (EC) No 2006/2004 on cooperation between national authorities responsible for the enforcement of consumer protection laws

<sup>28</sup> According to Article 13A: „Where the national regulatory authority concludes that the appropriate obligations imposed under Articles 9 to 13 have failed to achieve effective competition and that there are important and persisting competition problems and/or market failures identified in relation to the wholesale provision of certain access product markets, it may, as an exceptional measure, in accordance with the provisions of the second subparagraph of Article 8(3), impose an obligation on vertically integrated undertakings to place activities related to the wholesale provision of relevant access products in an independently operating business entity.”

<sup>29</sup> Article 1 changes the Framework Directive by adding that „Member States shall ensure that national regulatory authorities exercise their powers impartially, transparently and in a timely manner. Member States shall ensure that national regulatory authorities have adequate financial and human resources to carry out the task assigned to them”

## **2.2 Member States' regulations**

Out of the numerous regulatory changes, this chapter focuses solely on the three areas of the regulation, which are concerned by the thesis: vertical separation, the structure of the regulators and SMP regulation.

The EU law relevant for the issue mainly consists of directives, which need to be implemented in national law, and at the same time may leave some space for different implementation. The EU law and the scope of divergence between national implementations have already been assessed. In the following the regulatory choices made by the UK and Germany are described, to provide a summary of the legal background.

### **2.2.1 Unbundling**

There is a different vision on the EU level towards unbundling of the network level(s) between the two sectors. In the electricity sector unbundling is a key part of the reform, while in telecommunications unbundling has only been introduced in 2009 as a special remedy.

There is also a very distinct attitude towards unbundling within the Member States concerned. In the UK there is strong unbundling in the electricity sector furthermore BT, the telecommunications incumbent's network business has also been separated. In contrast, in Germany there was no effective separation in the electricity sector until 2005 while Deutsche Telekom (DT) the telecommunications incumbent is still intact.

The liberalisation of the electricity sector in the UK (de jure) started in 1983, when the Energy Act enabled new generators to enter the market by significantly

removing the entry barriers.<sup>30</sup> The restructuring was started by the Electricity Act 1989, which ordered the ownership separation of the transmission network, but the distribution networks remained integrated with the supply companies. This has been changed by the Utilities Act 2000, which amended the Electricity Act 1989, section 6. 2, added that: "(2)The same person may not be the holder of both a distribution licence and a supply licence." By 2007 half of the regional distribution-supply incumbents have carried out ownership separation on a voluntary basis.<sup>31</sup>

Also on a (de jure) voluntary basis in 2005 BT has been separated into four parts: Openreach, BT Retail, BT Wholesale and BT Global.<sup>32</sup>

In the German electricity sector there has traditionally been a strong vertical integration between the different levels. Unlike in the UK, in Germany the electricity reform has been driven by the EU directives. The '96 EU Directive was implemented by Germany in the Energy Act of 1998, ordering minimal separation and negotiated access. Even these measures have been enforced poorly: only the competition authority has been entrusted with the ex post oversight of the sector. This changed when the 2003 EU directive required legal or ownership separation of the transmission networks, which was implemented by the Energy Act of 2005 (Energiewirtschaftsgesetz). The Act came to effect the same year, but legal separation of the distribution businesses was delayed until 2007. The new unbundling requirements of the third EU package were transposed by the German Energy Act by 2011.

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<sup>30</sup> Richard Pond, 'Liberalisation, privatisation and regulation in the UK electricity sector' Working Lives Research Institute, LMU- Country report on liberalisation and privatisation processes and forms of regulation 2006

<sup>31</sup> Stephen Davies, Catherine Waddams Price, 'Does Ownership Unbundling Matter? Evidence from UK

Energy Markets' 2007 (Nov-Dec) *Intereconomics*, 298-299

<sup>32</sup> CF <http://www.btplc.com/Thegroup/BTsHistory/History.htm> accessed 17/11/2011

Duetsche Telekom did not have to carry out any separation similar to BT's in the UK.

### 2.2.2 Authorities

The EU law specifies some requirements towards the national regulatory authorities, but the Member States are free to choose the structure of the authority. They may entrust the same authority with the regulatory tasks of more than one industry, or create separate entities for the industries reformed. Although there is a tendency of integration in both Member States concerned, the way the authorities developed and their current states are significantly different.

In the UK there is a regulator responsible for the energy sector (electricity and gas) and one for the communications industry. The Electricity Act 1989 established Offer a stand-alone electricity regulator. In 1999 Offer was merged with Ofgas, the gas regulator thereby Ofgem was created, which was formally brought into being by the Utilities Act 2000.<sup>33</sup> Similarly, for the telecommunications sector Oftel was set up under the Telecommunications Act 1984. According to the Communications Act 2003 Ofcom became the dominant regulator of the telecommunications industry,<sup>34</sup> Ofcom was created out of the merger of Oftel, the Radiocommunications Agency (who regulated the mobile sector together with Oftel), and the Broadcasting Standards and Independent Television Commission.<sup>35</sup>

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<sup>33</sup> Select Committee on Constitution, 'Minutes of Evidence - Memorandum by OFGEM' (2003) available at: <http://www.publications.parliament.uk/pa/ld200304/ldselect/ldconst/68/3052109.htm> accessed: 25/10/2014, footnote 2

<sup>34</sup> Helen Kemmitt, John Angel, *The Telecommunications Regime in the United Kingdom* in Ian Walden ed. *Telecommunications Law and Regulation* (3rd edn. OUP 2009) 142

<sup>35</sup> Ian Lloyd, David Mellor, *Telecommunications Law* (Butterworths, 2003) 51

In contrast to the UK in Germany there is one regulator (the Bundesnetzagentur) that is responsible for energy, communications as well as some other sectors. In Germany the Regulierungsbehörde für Telekommunikation und Post (RegTP) has been established by Telecommunications Act 1996 and was tasked with the regulation of the telecommunications sector. The RegTP was formed in 1998, at the start of the liberalisation. For the electricity sector, however, no regulator was created at the beginning of the reform, but the competition authority was given the duty of exercising oversight (but only ex-post, no ex-ante powers were given). This was in line with the EU regulation until the second stage of the reform. Instead of creating a regulator for the electricity sector, when (due to EU law) it became mandatory, in Germany the existing telecommunications regulator was given mandate for the regulation of the electricity sector. The RegTP was renamed to “Bundesnetzagentur” (Federal Networks Agency). The Bundesnetzagentur is currently regulating the electricity, gas, telecommunications, post and railway sectors. The third EU package did not necessitate any changes: the relevant German rules were already compliant.

### **2.2.3 SMP regulation**

As it has been discussed, on the EU level the regulation is focused on unbundling of the networks in the electricity sector, but not in the telecommunications sector. Instead, the telecommunications regulation relies on significant market power regulation, a concept that is derived from competition law, but applies ex-ante.

In the history of the telecommunications reform of the UK there has been a long period (before the EU reforms started) when telecommunications regulation did not include SMP regulation. The British Telecommunications Act 1981 started the so called “duopoly period”, when the UK tried to create competition between two companies (the incumbent BT and the new entrant Mercury) in all levels. During this period access was not an issue as no other firms were allowed to enter the market. The initiative turned out to be unsuccessful and was abandoned step by

step after approximately 10 years. As the EU started regulating the area, the UK system followed the EU regulation; access has been arranged according to the Interconnection directive (stage 1), then the Communications Act 2003 implemented the changes necessitated by the 2002 EU package (stage 2).

In Germany the telecommunications reform was led by the EU initiative from the beginning signalled by the Telecommunications Act (Telekommunikationsgesetz) 1996.<sup>36</sup>

In the electricity reforms none of the EU Member States (except for Hungary) used SMP regulation.<sup>37</sup>

The following table provides an overview of the regulatory changes concerned by year (as they came to effect):

Summary of regulatory changes				
Date	UK		Germany	
	Electricity	Telecommunications	Electricity	Telecommunications
1984		Oftel was established Privatisation (BT)		
1985-1988				

<sup>36</sup> OECD, 'Reviews of Regulatory Reform: Germany 2004 - Consolidating Economic and Social Renewal' available at: [http://www.oecd-ilibrary.org/governance/oecd-reviews-of-regulatory-reform-germany-2004\\_9789264107861-en](http://www.oecd-ilibrary.org/governance/oecd-reviews-of-regulatory-reform-germany-2004_9789264107861-en) accessed: 25/08/2014, 169

<sup>37</sup> The MALC sin the UK are similar too, but they have never been used in practice.

Summary of regulatory changes				
Date	UK		Germany	
	Electricity	Telecommunications	Electricity	Telecommunications
1989	Ownership separation between generation and transmission			
	Offer was established Privatisation			
1990-1994				
1995				Privatisation (DT)
1996				
1997		SMP regulation (Interconnection Directive transposed)		
1998				RegTP was established
				SMP regulation was introduced
1999				

Summary of regulatory changes				
Date	UK		Germany	
	Electricity	Telecommunications	Electricity	Telecommunications
2000	Legal separation between distribution and supply			
	Offer and Ofgas merged to Ofgem			
2001-2002				
2003		The 2002 EU directives was transposed (new SMP regime)		
		Ofcom was created (out of the merger of Oftel, the Radiocommunications Agency, the Broadcasting Standards and Independent Television Commission)		
2004				The 2002 EU directives were transposed (new

Summary of regulatory changes				
Date	UK		Germany	
	Electricity	Telecommunications	Electricity	Telecommunications
				SMP regime)
2005		BT was functionally separated	Legal separation between generation and transmission	RegTP was entrusted with electricity regulation
			Bundenetzagentur was established	
2006				
2007			Legal separation between Distribution and supply	
2008-2010				
2011			Unbundling provisions of the Third EU package transposed	
2012				
2013	ERRA changes regulators' competition	ERRA changes regulators' competition law powers		

Summary of regulatory changes				
Date	UK		Germany	
	Electricity	Telecommunications	Electricity	Telecommunications
	law powers			
2014	Ofgem energy market investigation referral to CMA			

Figure 1: Summary of regulatory changes

The 2009 EU electricity and telecommunications packages did not require major changes in the regulatory areas concerned in the UK and Germany, besides these changes are too recent to allow for meaningful analysis of changes in the tendencies since their implementation. Therefore, these are out of the scope of the research carried out in this chapter.

### 3 Outcomes

In order to be able to show what sort of regulatory solutions are necessary for a successful reform, the sectors should be analysed in terms of their results first. There are many ways these reforms can be assessed; there is no single “generally accepted” method.<sup>38</sup> In this paper prices, market share tendencies and consumer satisfaction data are compared and contrasted with changes in the regulatory solutions (as detailed above). These indicators are widely used by both public

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<sup>38</sup> Lesley Davies, Kathryn Wright, Catherine Waddams, ‘Experience of Privatisation, Regulation and Competition: Lessons for Governments’ CCP Working Paper 05-5, 5

bodies and academics when assessing the reforms, and accordingly, the literature on the issue is already substantial. The section below builds on this literature.

It has to be noted here that using these indicators to assess the relative success of the reforms concerned is not straightforward. Some of the regulatory changes took place at the same time and, therefore, by simply looking at the tendencies after such occasions it cannot be separated whether the tendency can be connected to one or the other.

Besides (and perhaps more importantly), there are many factors outside the regulation that affect the data. The connection between the regulatory differences concerned (unbundling, the structure of the regulatory authority, and the use of SMP regulation) and the outcome of the reforms in terms of price (1), market share (2) and consumer satisfaction (3) is rather complex, and not necessarily direct. Although there are studies evaluating the relationship between industry performance and regulation using cross-country dataset,<sup>39</sup> establishing a direct link between regulation and its effect on prices, market concentration etc. is rather problematic as there are many factors that might affect that certain variable.

Accordingly, the purpose of the analysis below is limited (1) to give an overview of the changes that happened after the reforms started, (2) to see whether there are correlations between regulatory changes and changes in the indicators chosen.

Simply comparing the UK to Germany does not seem to be satisfactory: even though there might be seemingly big differences between their results, they can both be fairly good or bad. Therefore, the results of the countries concerned are assessed in context of the average EU trends (where such data is available).

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<sup>39</sup> Faye Steiner, 'Regulation, Industry Structure and Performance in the Electricity Supply Industry' OECD Economic Studies No. 32, 2001/I

### 3.1 Price tendencies

Price trends are described in numerous studies; one of the most frequently used method of assessing the success of a reform is looking at price tendencies.

Whether prices should rise or fall as a result of a successful reform is actually not straightforward. It is true that the reforms are aimed at achieving more competition and less monopoly, and a competitive price is by definition below a monopoly price. However, the monopoly price has not been the base line (the starting point) in any of the cases concerned. The governments have been influencing the prices in all sectors concerned before the start of the reforms. This may mean that the prices before the reforms were either above or below the competitive prices.

On one hand politicians have the incentive to establish low prices (maybe even below costs and subsidize the industry from the central budget), so they keep citizens content in order to gain votes. Accordingly price rises after the reforms may only mean that prices now reflect the real costs, plus the profits necessary to attract investments which are essential for the security of supply. On the other hand, the governments (especially when the reform involves privatisation) may try to raise prices before the start of the reform to give a signal of profitability in the sectors, thereby attracting entrants (or achieve a higher price when selling public property). In this case price falls may only happen because beforehand they were kept artificially high and not because of enhanced efficiencies arising out of competition. Under a competitive setup prices reflect costs therefore a change towards competition includes tariff re-balancing.

Since the sectors were also vertically integrated, the companies only had to recover their costs overall (i.e. all the productions levels together). This, however, changed by vertical separation. The companies active on the different levels now have to recover their costs separately.

Prices furthermore depend on other factors that are not directly related to the reforms or the regulation. For example, electricity prices are highly dependent on the cost structure of the generation portfolio. Nuclear plants have high fixed costs

(they are expensive to build) but low marginal costs (fuel price is relatively cheap). The opposite is true for Combined Cycle Gas Turbine (CCGT) plants: building such plants is relatively cheap, but their fuel costs are in general considerably higher, and also depend on the actual gas prices. As the use of CCGT plants became more and more wide-spread electricity prices became highly dependent on gas prices. This means that prices might change simply due to rise or fall of input (fuel) prices.

An additional problem of comparing prices of countries having different currencies is that the exchange rates (and therefore the prices calculated and compared) are highly dependent on macro-economic factors.

Still, the expectation towards the reforms was that they force prices down.<sup>40</sup>

Although there are many factors that affect prices, it can be established that one of the benefits of competition (and privatisation) is enhanced productive efficiency which means better productivity, lower costs which then results in lower prices.<sup>41</sup>

Some also argue that competition facilitates innovation,<sup>42</sup> which may ultimately also lead to price reductions, although others suggest that high profits (thus high prices) are necessary to finance innovation.<sup>43</sup> Indeed, investment is needed to achieve security of supply and investment can be attracted by higher prices.

In order to see whether and to what extent these expectations were met, the following section looks at price data.

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<sup>40</sup> European Central Bank, 'Price effects of regulatory reform in selected network industries' [2001] 5, Steiner (2001) 144

<sup>41</sup> Richard Whish, *Competition Law* (6<sup>th</sup> edn OUP, London 2009) 5

<sup>42</sup> William G. Shepherd, 'Dim prospects: effective competition in telecommunications, railroads and electricity' 1997 (42) *The Antitrust Bulletin*, 163

<sup>43</sup> Cf Whish (2009) 4-6

## European Central Bank (Electricity and Telecom)

The European Central Bank carried out a study on the price changes in the industries concerned after the reforms. They used a Harmonised Index of Consumer Prices (HICP)<sup>44</sup> which shows the price changes of a “fixed-basket” of goods over time, from 1996 to 2000, so at an early stage of the German reforms, but at a more mature state of the reforms in the UK (especially in telecommunications).<sup>45</sup> The regulatory changes concerned within this period are summarized below:

Summary of regulatory changes between 1996 and 2000				
Date	UK		Germany	
	Electricity	Telecommunications	Electricity	Telecommunications
1996				
1997		SMP regulation (Interconnection Directive transposed)		
1998				RegTP has been established
				SMP regulation has been introduced

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<sup>44</sup> About the HICP methodology in detail see: ‘HICP methodology’ available at: [http://epp.eurostat.ec.europa.eu/statistics\\_explained/index.php/HICP\\_methodology](http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/HICP_methodology) accessed: 30/05/2012

<sup>45</sup> For the details of the index see European Central Bank (2001) 24-27

Summary of regulatory changes between 1996 and 2000				
Date	UK		Germany	
	Electricity	Telecommunications	Electricity	Telecommunications
1999				
2000	Legal separation between distribution and supply			
	Offer and Ofgas merged to Ofgem			

Figure 2 Summary of regulatory changes between 1996 and 2000

The German data is especially interesting, as there the reforms started in the middle of this period, in 1998. This allows for the comparison of pre and post reform prices. The UK has started both reforms earlier, so – except for the changes in the telecommunications regulation in 1997 – there, this period more reflects “business as usual” at a rather developed stage. There were substantial changes in the electricity regulation of the UK in 2000, but since this study does not concern the period after 2000, tendencies after these regulatory changes cannot be analysed through this source.

The study calculated the HICP as the following:

Sector	Country	1996	1997	1998	1999	2000	% change 1996-2000
Telecom	Germany	100.0	96.2	94.9	84.1	79.9	-20.1

Sector	Country	1996	1997	1998	1999	2000	% change 1996- 2000
	United Kingdom	100.0	96.7	95.0	91.9	87.7	-12.3
	Euro area (12)average	100	97,7	95,8	90,5	86,4	-13,6
Electricity	Germany	100.0	100.5	101.7	105.7	100.5	0.5
	United Kingdom	100.0	95.2	90.9	89.8	87.9	-12.1
	Euro area (12)average	100	99,5	99,7	99,5	98,2	-1,8

Figure 3 ECB HICP data between 1996 and 2000

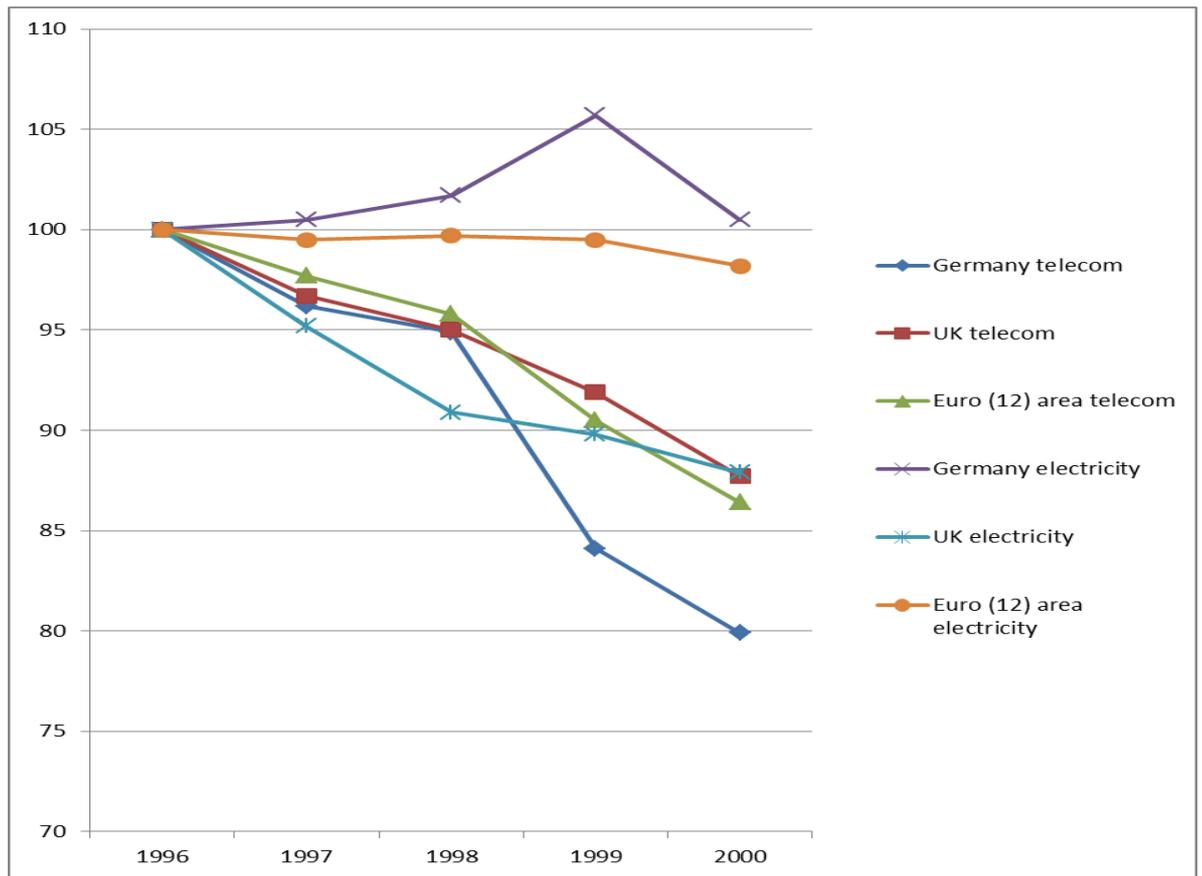


Figure 4 ECB HICP Graph

This data shows that in general there is a stronger tendency for price falls in the telecommunications sector than in the electricity sector. The UK electricity sector does considerably better than the German electricity sector, while it is the opposite when it comes to telecommunications: prices are decreasing in the UK, but the price reductions are even higher in Germany. Furthermore, the German electricity and the UK telecommunication sectors have worse tendencies than the respective averages.

There is an especially noticeable fall in the Germany telecommunications prices after 1998, the year the reform (liberalisation, introduction of SMP regulation and the creation of RegTP) started. On the EU level price falls were much more modest. The trends in the UK were very similar to the EU average and there is no visible change in the UK price trends after the regulatory changes that took place in 1997.

In contrast the German electricity prices after the enactment of the implementing act of the '96 EU directive started rising to a higher pace than before, although after 1999 prices started falling and by 2000 they were lower than in 1998. During the same period the UK prices were falling without the trace of any similar pattern in the UK prices while in the EU level prices were essentially stagnating.

The study claims that “[the] regulatory reform has been the driving force behind the substantial price decreases”<sup>46</sup> while also acknowledging that “past investments in infrastructure and the acceleration of technical changes in telecommunications are likely to have contributed to the recent price decreases”.<sup>47</sup> In connection with electricity the picture is not as pleasant. According to the study: “it would be premature to attribute the recent falls in electricity prices primarily to intensified competition. In fact, they are more likely to occur either because of a pre-emptive pricing policy by the incumbent operators or because public regulators operate price caps in order to “simulate” competitive prices”.<sup>48</sup>

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<sup>46</sup> European Central Bank (2001) 19

<sup>47</sup> *Ibid*

<sup>48</sup> *Ibid* 19-20

## DG Competition Report on the Energy Sector (Electricity - Wholesale)

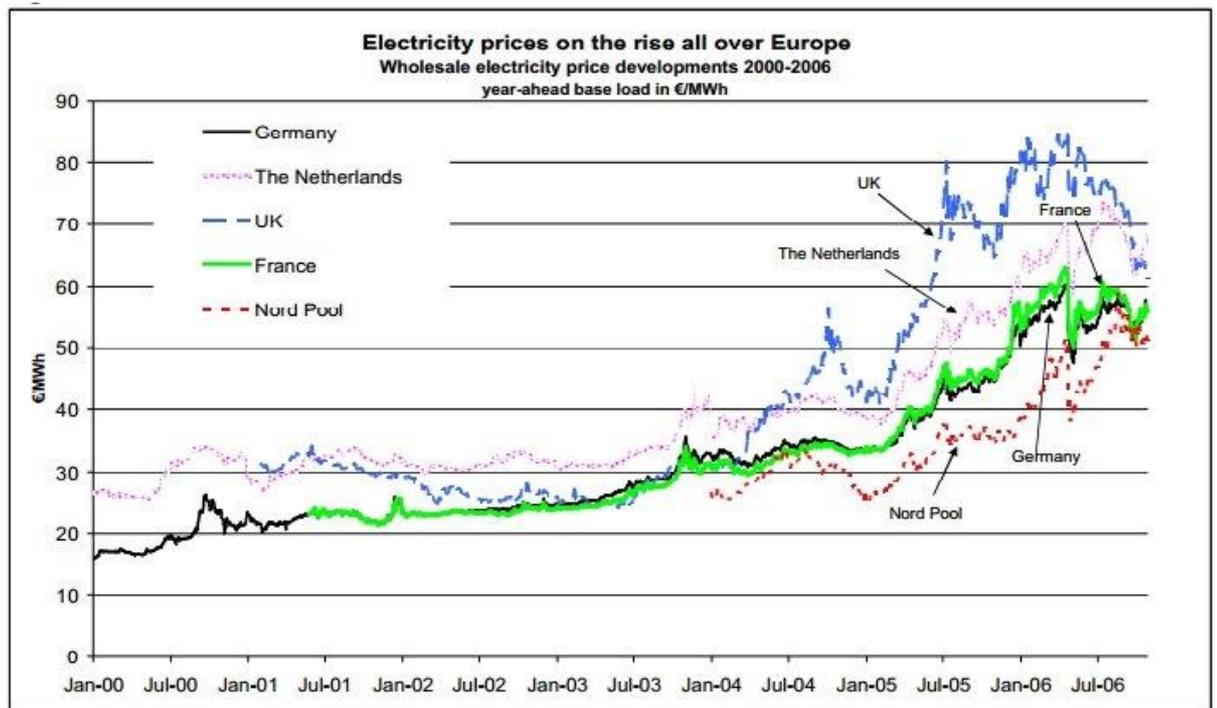
The DG Competition Report on the Energy Sector contains price data of the electricity sectors between 2000 and 2006. The relevant changes in the regulation during this period are summarized in the table below:

Summary of regulatory changes in the electricity sectors between 2000 and 2006		
Date	UK	Germany
2000	Legal separation between distribution and supply	
	Offer and Ofgas merged to Ofgem	
2001-2004		
2005		Legal separation between generation and transmission
		Bundenetzagentur has been established
2006		

Figure 5 Summary of regulatory changes in the electricity sectors between 2000 and 2006

Observing the data, it can be established that generally, in the EU after the electricity reforms prices were relatively stable, then after 2003 they started to

rise.<sup>49</sup> According to the Commission “[s]ignificant rises in gas and electricity wholesale prices that cannot be fully explained by higher primary fuel costs and environmental obligations”<sup>50</sup> that is why it started a sector inquiry in 2005. This also reflects the importance of prices when assessing the reforms. In its report, the Commission uses wholesale prices, which are (in general, but especially after 2004) higher in the UK than in Germany.



Source: DG Comp Report on Energy Sector Inquiry

Figure 6 Electricity prices 2000-2006

Trends related to the regulatory changes in the UK in 2000 cannot be analysed since the data for the country is missing before 2001, but the Germany regulatory developments in 2005 took place well within the period concerned by the study. Prices in Germany started rising from 2005 onwards, after a relatively stable period of lower prices. However, the same trends can broadly be observed in other

<sup>49</sup> DG Competition, 'Report on Energy Sector Inquiry' SEC(2006)1724 part 2 available at: [http://ec.europa.eu/competition/sectors/energy/inquiry/full\\_report\\_part2.pdf](http://ec.europa.eu/competition/sectors/energy/inquiry/full_report_part2.pdf) accessed 02/07.2012 111

<sup>50</sup> DG Competition (2006) 4

Member States as well which means that the upward trend potentially has non-country specific causes.

Ultimately, the use of wholesale prices, however, does not seem to be appropriate to assess the reforms concerned (especially the German case). The wholesale price is only a fragment of the overall price that end users have to pay. Also, there is a potential that the wholesale prices are not cost-reflective because there is cross-financing between the different levels. Although there is regulation aimed at the impediment of cross-financing between the different levels, a vertically integrated firm will always have the incentive to try to allocate its costs where competition is less likely, because on an anti-competitive market, competitors are not going to drive prices down and force the firm out of the market. Considering this incentive, and the fact that there is information asymmetry between the regulated firms and the regulator, the possibility of such practice cannot be ruled out, even if there is no trace of such abuse in the regulators' cases.

In the UK there is vertical integration between the generation and the supply levels<sup>51</sup>: firms have the incentive to reach the maximum profit and defend their position on these two levels combined. Entering the supply level is potentially easier than entering the generation business because fixed costs are less prominent there, so lower investment is enough. Therefore, these integrated firms are better off by charging more on the wholesale level: putting a higher profit ratio on the wholesale prices means that the margin on the retail prices can be squeezed. This can reduce the likeliness of new firms entering the wholesale market, which is a joint incentive of all the firms present.

In Germany the sector is much more integrated, which gives more opportunity for cross-financing. While the UK firms can only allocate some of their costs to either the generation or the supply level, out of which allocation to the generation level is

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<sup>51</sup> Although some merchant generation and independent retailers existed, particularly in the non-domestic sector.

the safest possibility, the German firms (especially until 2005) had an even better option: as they were integrated with the monopolistic levels as well, they have the option of allocating their costs to the transmission and distribution levels. As these levels were (and still are) monopolistic, no one can enter and drive costs down there. Also, prices of the transmission and distribution levels are regulated. By allocating costs to those levels, the regulated price can be raised. This is quite straightforward if prices are regulated by a rate-of return method,<sup>52</sup> but even if prices are regulated by an RPI-X method,<sup>53</sup> as this has to be re-adjusted from time to time, costs are ultimately taken into account.<sup>54</sup> By raising the regulated prices, through the costs allocated there from the competitive levels, the integrated firm essentially manages to make its competitors subsidise its business from the competitive level, thereby putting the other firms in a competitive disadvantage.

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<sup>52</sup> This means that the price is calculated on the basis of the capital invested plus adding an amount equal to a „fair return“.

<sup>53</sup> „An approach to regulating prices under which the regulated firm is allowed to adjust its own prices subject to the weighted average of prices not exceeding a cap. In the RPI-X price cap system this cap is allowed to increase at the rate of inflation (RPI) less some "X factor" to account for productivity gains or to reduce the regulated firm's rents.” – OECD, 'Glossary of Statistical Terms' available at: <http://stats.oecd.org/glossary/detail.asp?ID=6754> accessed: 11/07/2012

<sup>54</sup> Ellen M. Pint, 'Price-cap versus rate-of-return regulation in a stochastic-cost model' (1992) 23 RAND Journal of Economics, 564

This seems to be reflected in the breakdown of the electricity prices below.

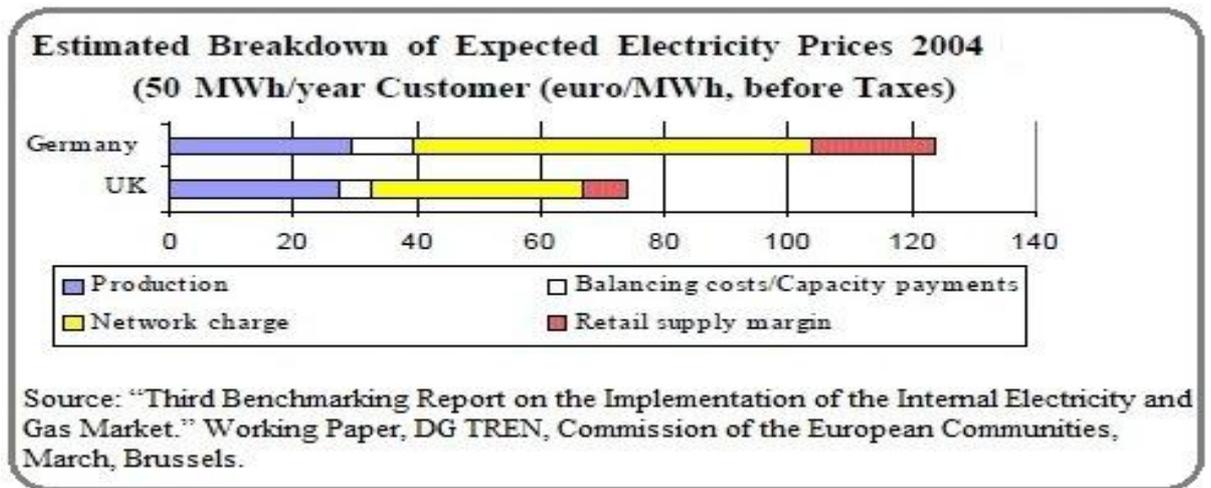


Figure 7 Breakdown of electricity prices (2004)

This data reflects the 2004 state, so the time when the German electricity market was still fully integrated. Although the German prices are higher at every level, the biggest difference is in the network charges. There is also a big difference between the supply prices, which may reflect the fact that by 2004 (since 2000) legal separation between the distribution and the supply levels was a minimum requirement (but some companies carried out ownership separation on a voluntary basis) in the UK, while in Germany the same requirement only took effect in 2007. For the above mentioned reasons, data on generation prices in this period is rather inconclusive.

### EUROSTAT (Electricity - Retail)

There is Eurostat data available on the industrial and household electricity prices from 2000 to 2011, which is potentially more meaningful in the context of this chapter than generation prices.

Summary of regulatory changes in the electricity sectors between 2000 and 2011		
Date	UK	Germany

Summary of regulatory changes in the electricity sectors between 2000 and 2011		
Date	UK	Germany
2000	Legal separation between distribution and supply	
	Offer and Ofgas merged to Ofgem	
2001-2004		
2005		Legal separation between generation and transmission
		Bundenetzagentur has been established
2006		
2007		Legal separation between Distribution and supply
2008-2010		
2011		Unbundling provisions of the Third EU package transposed

**Figure 8 Summary of regulatory changes in the electricity sectors between 2000 and 2011**

Unfortunately, the data only covers the post 2000 period, therefore the changes in the UK regulation (the creation of Ofgem and the legal separation of distribution and supply) that took place in 2000 (Utilities Act) cannot be assessed by looking at differences in tendencies before and after, while looking at the immediate

tendencies after 2000 there are no obvious and meaningful changes in this data (household prices only started falling in 2002, industrial prices started falling in 2001).



Figure 9 Electricity household prices 2000-2011

The household prices in the UK tend to be lower than in Germany, however the prices in the UK started to rise significantly after 2005 and since 2008 the difference between them is marginal.

The regulatory changes in 2005 (the establishment of the Bundesnetzagentur and the unbundling of the generation and transmission levels) were not followed by price reductions, although prices were rising in the EU in general post-2005, while in the UK 2005 was a starting point of a substantial price rise, which by 2008 resulted in higher electricity prices in the UK than in Germany. So, putting the German prices in context the post-2005 results are not disappointing. In 2007, the legislation requiring legal separation between distribution and supply came into

effect. In the same year the tendency of price rises stopped and in a year prices were below the 2005 level. However, the price decrease did not last long: a year later prices were rising again, but since the separation of the distribution and supply levels in Germany the difference between the household prices in the UK and Germany are much less significant.

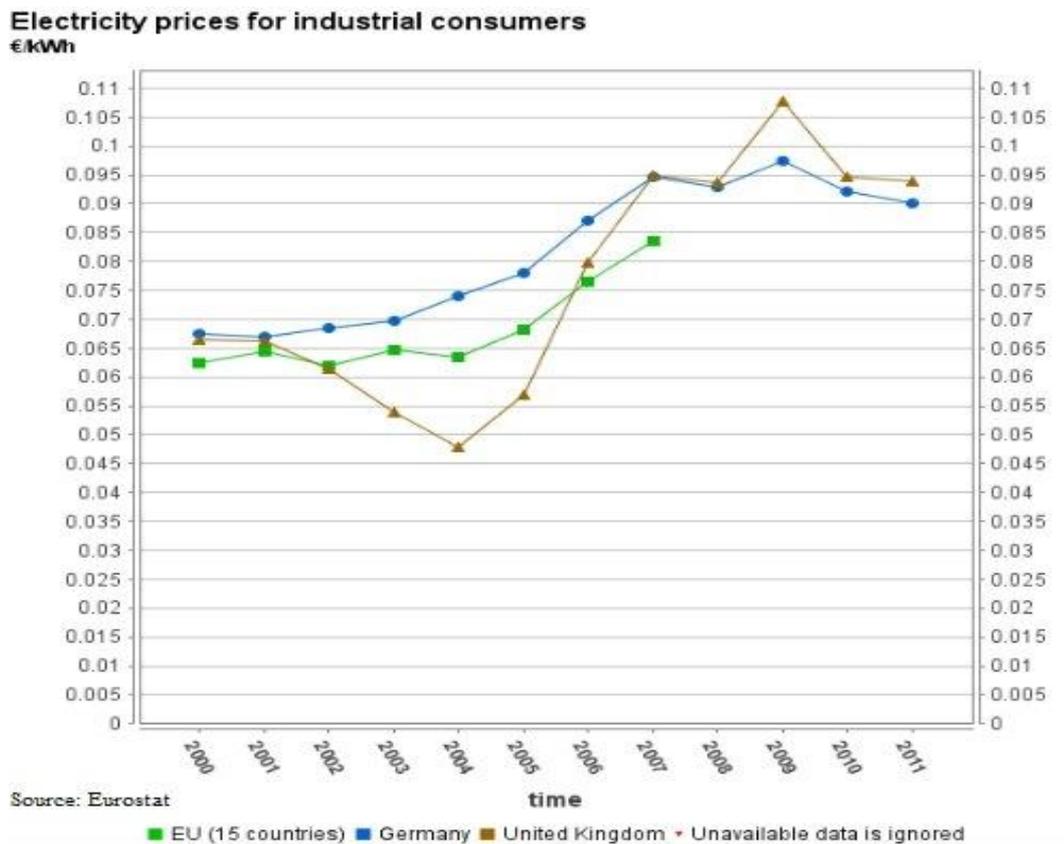


Figure 10 Electricity industrial prices 2000-2011

The trends of the industrial prices are similar. The UK prices started to rise in 2004 (one year earlier than household prices) and since 2007 there is no big difference between them, but by then prices have been higher in the UK than in Germany.

## Bismut (Telecom)

Turning to telecommunications, we start by assessing data on telephone prices from 1998 to 2005 which is available from Bismut's study.<sup>55</sup> The German telecommunications reform just started at the beginning of this period while the UK was already ahead (even the main restrictions due to the duopoly policy has ended by 1993). The regulatory changes concerned are summarized in the table below:

Summary of regulatory changes in the telecommunications sectors between 1998 and 2005		
Date	UK	Germany
1998		RegTP has been established
		SMP regulation has been introduced
1999-2002		
2003	The 2002 EU directives has been transposed (new SMP regime)	
	Ofcom has been created (out of the merger of Oftel, the Radiocommunications Agency, the Broadcasting Standards and	

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<sup>55</sup> Sophie Bismut, 'Competition in European Telecom Markets' (2006) 64 Communications & Strategies

Summary of regulatory changes in the telecommunications sectors between 1998 and 2005		
Date	UK	Germany
	Independent Television Commission)	
2004		The 2002 EU directives has been transposed (new SMP regime)
2005	BT has been functionally separated	RegTP has been entrusted with electricity regulation

Figure 11 Summary of regulatory changes in the telecommunications sectors between 1998 and 2005

Bismut looks at the “[e]volution of fixed telephony tariffs based on OECD national PSTN baskets”<sup>56</sup>. The corresponding data of UK and Germany are the following:

Residential (Annual cost of fixed telephony for a typical business or residential telephone user, in EUR/PPP per month)								
Country	1998	1999	2000	2001	2002	2003	2004	2005
Germany	32.83	26.99	25.33	25.32	25.81	26.10	26.62	23.56
UK	29.59	29.26	27.07	26.71	25.28	24.97	24.47	24.65
EU (25) average	33,49	31,01	31,73	32,22	32,15	32,29	32,3	30,79

Figure 12 Residential telecom prices data (1998-2005)

<sup>56</sup> Bismut (2006) 21

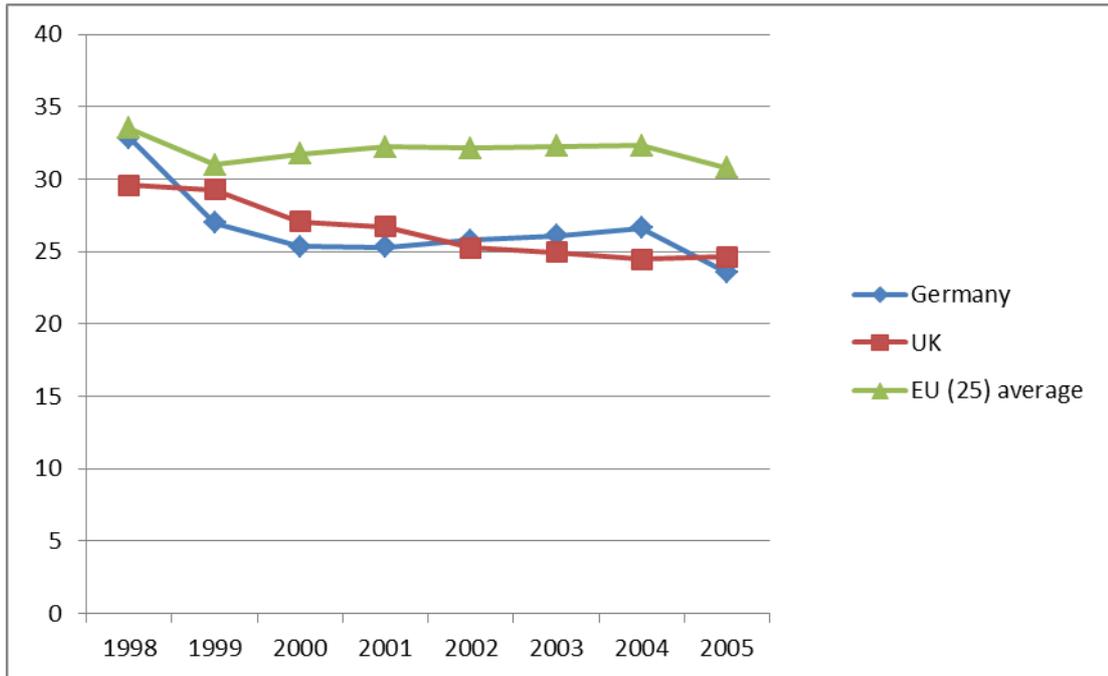
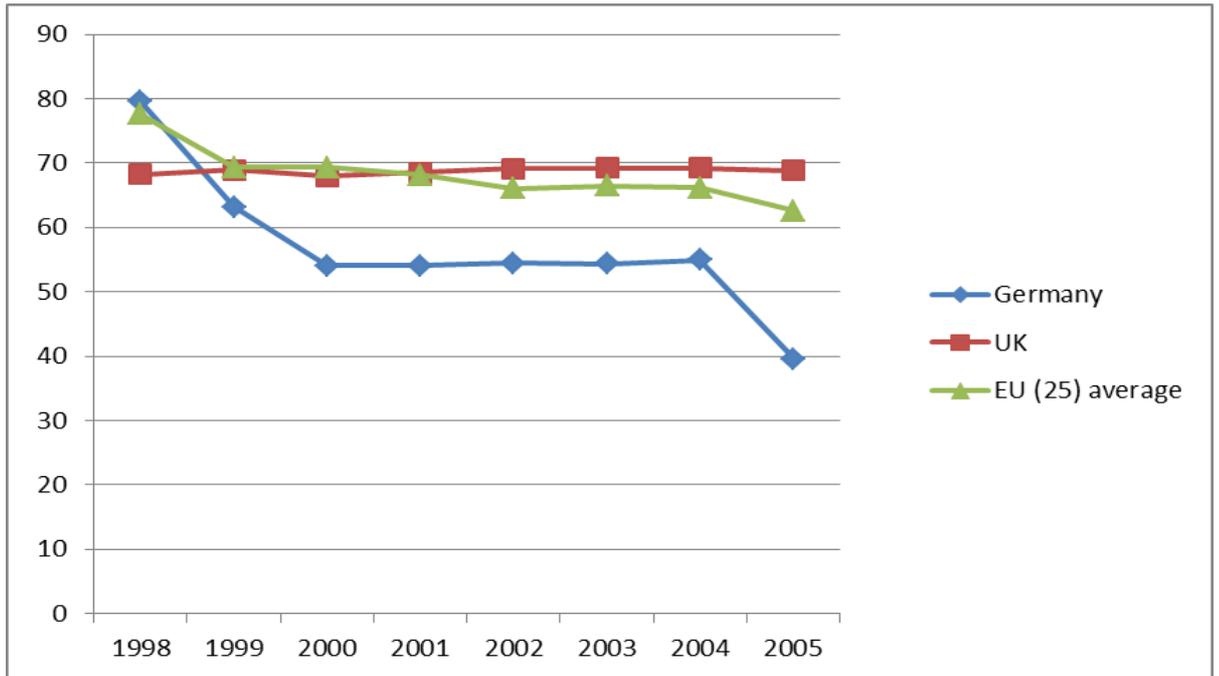


Figure 13 Residential telecom prices graph (1998-2005)

Business (Annual cost of fixed telephony for a typical business or residential telephone user, in EUR/PPP per month)								
Country	1998	1999	2000	2001	2002	2003	2004	2005
Germany	79.52	63.17	54.06	54.06	54.49	54.36	54.95	39.54
UK	68.28	68.97	67.99	68.57	69.16	69.24	69.24	68.85
EU (25) average	77,61	69,34	69,31	68,14	66,09	66,43	66,17	62,64

Figure 14 Business telecom prices data (1998-2005)



**Figure 15 Business telecom prices graph (1998-2005)**

According to these data the price tendencies of the German telecommunications sector are better. This is more obvious looking at the business prices than the residential prices and especially comparing them to the EU average: while in terms of the residential prices both countries are well below the EU average, business prices in the UK are much higher than in Germany and even higher than the EU average. Additionally, the overall price-falls between 1998 and 2005 is clearly greater in Germany than in the UK.

There were distinctive price falls in Germany just after the start of the reforms, but the data is reluctant to tell whether this was part of a tendency that started earlier. Interestingly, the transposition of the new SMP regulation coincides with prices falls (both residential and business) in Germany (2004) but not in the UK, where the transposition of the new SMP regulation was even topped with the creation of Ofcom (2003). Since the study only concerns the developments until 2005, the trends after the regulatory changes that took place in 2005 (especially the separation of BT) cannot be analysed through this source.

## Directorate General for Information Society (Telecommunications)

Price data concerning the telecommunications sector from 2000 to 2009 is available from a study made for the Directorate General for Information Society.<sup>57</sup> There have been key changes in the telecommunications sector in the UK during this period as summarized in the table below:

Summary of regulatory changes in the telecommunications sectors between 2000 and 2009		
Date	UK	Germany
2000-2002		
2003	<p>The 2002 EU directives has been transposed (new SMP regime)</p> <p>Ofcom has been created (out of the merger of Oftel, the Radiocommunications Agency, and the Broadcasting Standards and Independent Television Commission)</p>	
2004		The 2002 EU directives has been transposed (new SMP regime)

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<sup>57</sup> Teligen, 'Report on Telecoms Price Developments from 1998 to 2009 - Produced for: European Commission Directorate General for Information Society' available at: [http://ec.europa.eu/information\\_society/digital-agenda/scoreboard/docs/pillar/studies/voice\\_tariff\\_1998\\_2010.pdf](http://ec.europa.eu/information_society/digital-agenda/scoreboard/docs/pillar/studies/voice_tariff_1998_2010.pdf) accessed: 14/07/2012

Summary of regulatory changes in the telecommunications sectors between 2000 and 2009		
Date	UK	Germany
2005	BT has been functionally separated	RegTP has been entrusted with electricity regulation
2006-2009		

Figure 16 Summary of regulatory changes in the telecommunications sectors between 2000 and 2009

Generally this data shows trends similar to what has been discussed before. Until 2007 residential prices were a bit lower in the UK, then in Germany, where prices are basically equal to the EU average.

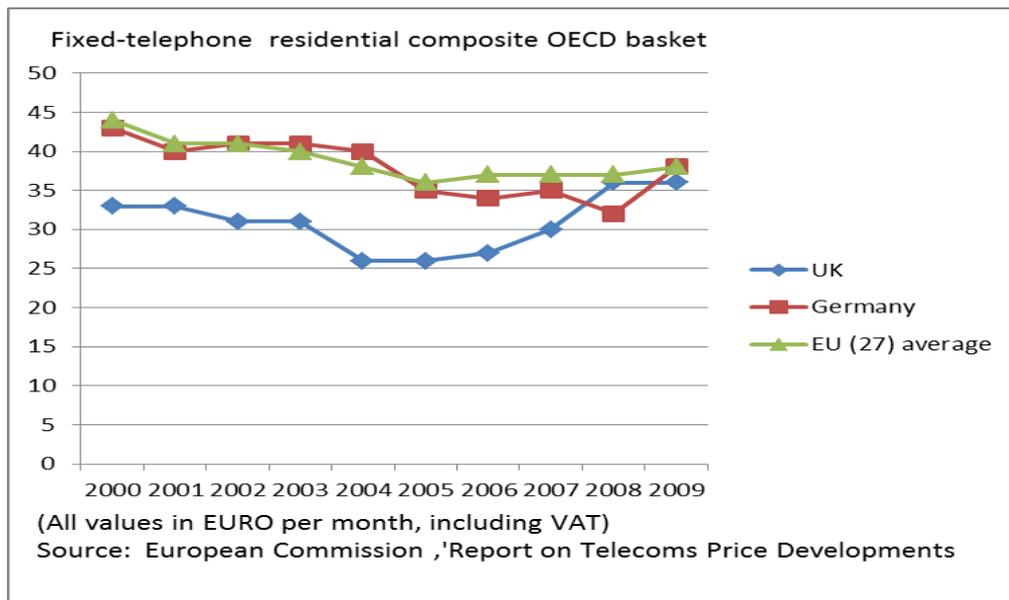


Figure 17 Fixed telephone residential prices (2000-2009)

In 2003 Ofcom was created and the new SMP regulation has been transposed in the UK. In the same year there was a price-drop however this did not last long. After 2004, the year when the new SMP regulation came to effect, prices have been falling in Germany (although from 2005 prices have been slightly rising there as well) while at the same time they were rising in the UK. BT has been separated in

2005, but the data shows no obvious change that can be linked to that (a price-rise started a year earlier and continued with the same pace until 2008).

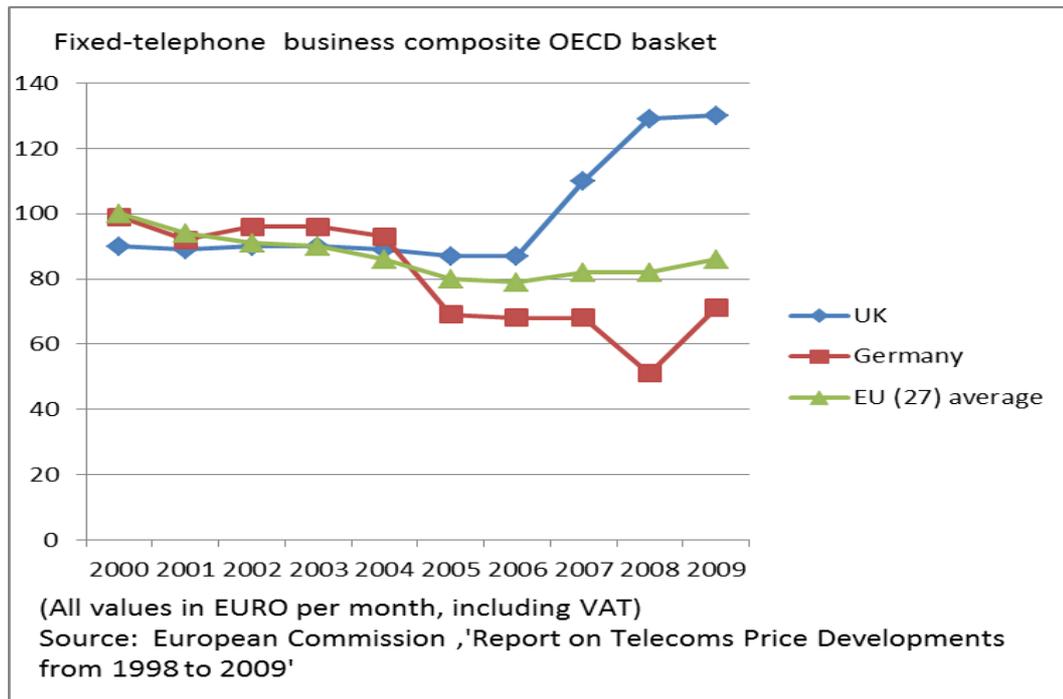


Figure 18 Fixed telephone business prices (2000-2009)

The assessment of the prices in the business sector is more straightforward: by 2009 prices were much higher in the UK than in Germany (the UK prices were well above the EU average as well). Furthermore, there is a trend of falling prices in Germany after 2004, the year when the new SMP regulation came into effect in the country, while especially after 2006 prices were rising in the UK, which is interesting, considering that the divestiture of BT has happened just a year earlier which would have been expected to result in more competition and lower prices. There was no trace of unusual trends in 2003, the year when Ofcom was created.

### 3.2. Changes in the market structure

The sectors concerned used to be dominated by one (or more<sup>58</sup>) monopoly(ies).<sup>59</sup> In case (after the liberalisation) new firms enter, that shows that the idea behind the reform was right: not all levels are natural monopolies where one firm can supply the most efficiently, but there is real scope for competition. Furthermore, market shares and market concentration are indicators of market power, which is generally speaking harmful for competition.<sup>60</sup>

Accordingly, in previously monopolized markets loss of the incumbent's market share is widely interpreted as a sign of awakening competition. Economics theory also suggests that competition works better on a market where a large number of firms are present. The practical importance of this feature can be illustrated by the Commission's report on gas and electricity sectors, which mentions concentration as one of the major problems that exist in the electricity sector: "electricity markets (...) generally maintain the high level of concentration of the pre-liberalisation period. This gives scope for exercising market power."<sup>61</sup> The Commission's telecommunications report also states that "[t]he market is still very concentrated".<sup>62</sup>

One key aim of the regulations concerned is providing access to monopolistic facilities by fair terms (unbundling and SMP regulation is directly connected to the

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<sup>58</sup> See the case of the German electricity sector.

<sup>59</sup> Except for the German electricity industry, this fact is taken into account in the study.

<sup>60</sup> Whish (2009) 40

<sup>61</sup> Communications from the Commission, 'Inquiry pursuant to Article 17 of Regulation (EC) No 1/2003 into the European gas and electricity sectors' (2006) 851 (Final Report) 5

<sup>62</sup> Commission, 'Progress Report on the Single European Electronic Communications Market 2007 (13th Report)' COM(2008) 153 available at: [http://ec.europa.eu/information\\_society/policy/ecomm/doc/library/annualreports/13th/SEC\(2008\)356DTSVol1final.pdf](http://ec.europa.eu/information_society/policy/ecomm/doc/library/annualreports/13th/SEC(2008)356DTSVol1final.pdf) accessed: 12/07/2012 17

issue, while the regulators' task is to apply these regulations). Accordingly, an effective regulatory regime should facilitate entry which results in lower market concentration. However, the connection is not direct: appropriate regulation enhances the likeliness of entry but there might be countervailing factors that may neutralize it, which has to be assessed as well. For example economies of scale and scope and highly specific assets (features that are present in both electricity and telecommunications) generally imply that the number of competitors is going to be relatively small.<sup>63</sup> Having many firms is rather the means, not an aim in itself. The main goal of the reforms is to benefit consumers, and due to scale of economies it may well be that a lower number of firms can supply more efficiently (produce more consumer welfare).

Still, both regulators and competition authorities use market shares (and market concentration data) as a starting point when assessing market power, therefore using this indicator is highly practical.

### **Matthes et. al. (Electricity – Generation)**

The study of Matthes et. al. concerns the market structure of electricity generation in both the UK and Germany.<sup>64</sup> The incumbent generators have an interest to keep new competitors out of the market to retain their market power. New entry results in less market power and more competition.

In electricity generation the assessment of the regulations' effect on market share is not straightforward because in neither of the countries concerned did a single

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<sup>63</sup> Brian Levy, Pablo T. Spiller, 'The Institutional Foundations of Regulatory Commitment: A Comparative Analysis of Telecommunications Regulation' (1994) 10 (2) Journal of Law, Economics, & Organization, 201, 204

<sup>64</sup> Dr. Felix Chr. Matthes, Katherina Grashof, Sabine Gores, 'Power Generation Market Concentration in Europe 1996-2005 - An Empirical Analysis' (2007) available at: [www.oeko.de/oekodoc/308/2007-002-en.pdf](http://www.oeko.de/oekodoc/308/2007-002-en.pdf) accessed 12/08/2014

incumbent exist at the beginning of the reforms. Therefore, it is not possible to analyse such company's loss of market share. Instead, the changes in the markets' concentration can be used, which indicator is similar in nature. The study by Matthes et. al. covers the period between 1996 and 2005. The regulatory changes in the electricity sector during this time are summarized in the table below:

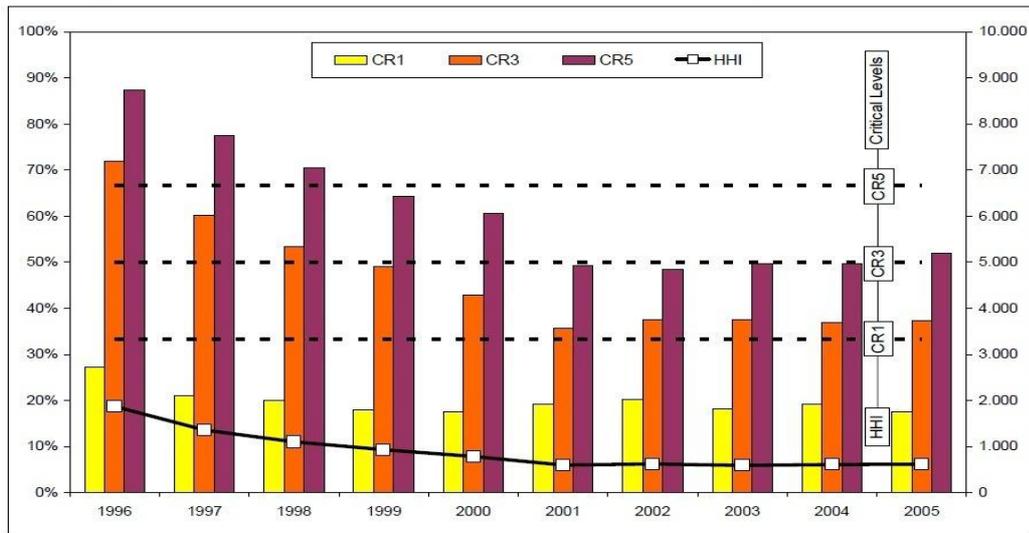
Summary of regulatory changes in the electricity sector between 1996 and 2005		
Date	UK	Germany
1996-1999		
2000	(Legal separation between distribution and supply)	
	Offer and Ofgas merged to Ofgem	
2001-2004		
2005		Legal separation between generation and transmission
		Bundesnetzagentur has been established

Figure 19 Summary of regulatory changes in the electricity sector between 1996 and 2005

This data covers the period before and after the creation of Ofgem. The major regulatory changes that took place in 2005 in Germany cannot be analysed in the context of market trends since the data does not cover the period after.

In Britain the structure of the sector was altered at the privatization: the incumbent was broken up into three generation companies (and also fourteen supply companies existed right at the beginning of the reforms). Later on even more companies entered the market. In the UK electricity sector there has been a tendency of less and less concentration and this general tendency does not show any unusual change in 2004, when Ofgem was created.

Power generation market concentration in the United Kingdom, 1996-2005

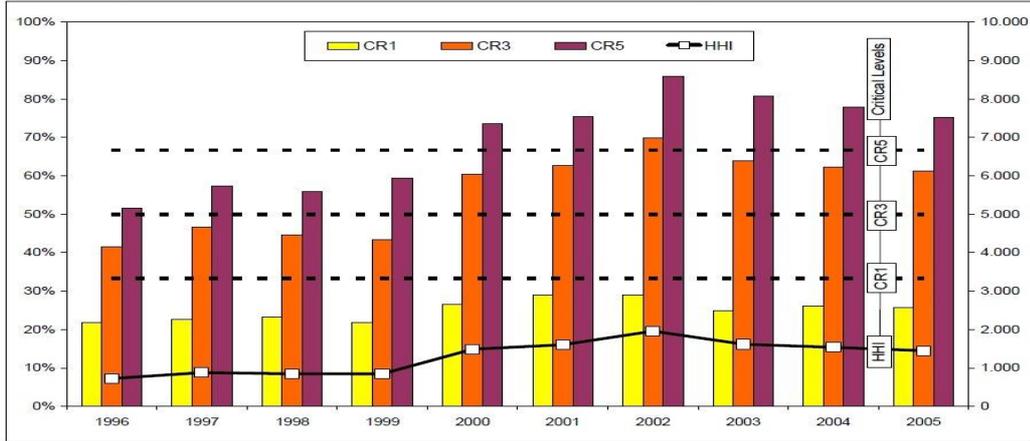


Dr. Felix Chr. Matthes, Katherina Grashof, Sabine Gores, 'Power Generation Market Concentration in Europe 1996-2005. An Empirical Analysis' [2007] Öko-Institut, 10

Figure 20 UK Generation market concentration (1996-2005)

In Germany the situation at the beginning was completely different: there were many – more or less vertically integrated – firms. Among those firms the biggest and most influential ones were the ones active in the generation level as well. In Germany however – in spite of having a seemingly more beneficial initial structure – the tendency is opposite: the generation level got more and more concentrated.

Power generation market concentration in Germany, 1996-2005

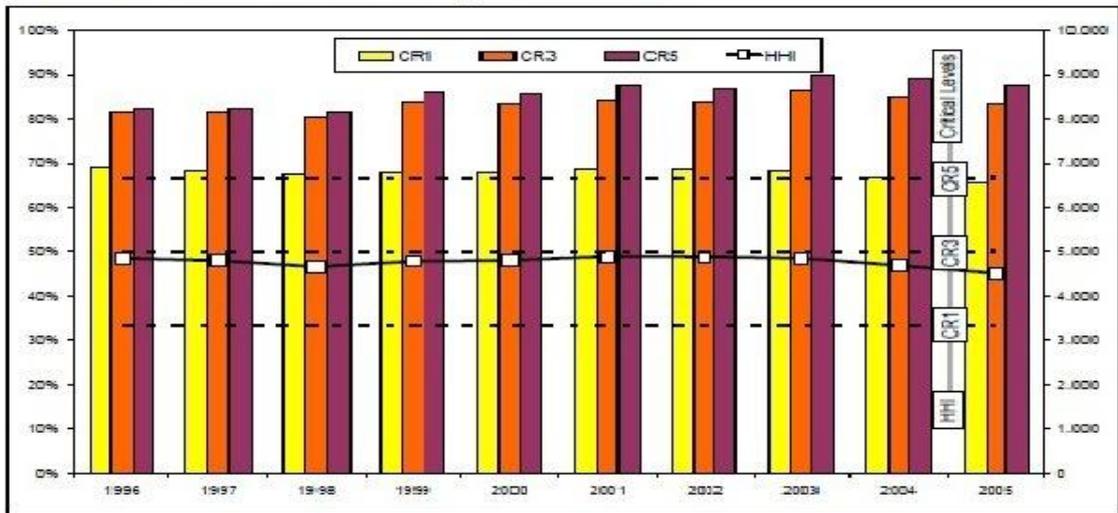


Source: Dr. Felix Chr. Matthes, Katherina Grashof, Sabine Gores, 'Power Generation Market Concentration in Europe 1996-2005. An Empirical Analysis' [2007] Öko-Institut 14

Figure 21 Germany Generation market concentration (1996-2005)

Data on the EU average is not available from this source. Still, it can be shown that even the German market is much less concentrated than the average of France, Belgium the Netherlands and Luxemburg.

Power Generation market concentration in France, Belgium the Netherlands and Luxemburg, 1996-2005



Dr. Felix Chr. Matthes, Katherina Grashof, Sabine Gores, 'Power Generation Market Concentration in Europe 1996-2005. An Empirical Analysis' [2007] Öko-Institut, 13

Figure 22 Average generation market concentration (1996-2005)

Also, a comparison of the HHI's of some EU country's electricity sectors between 2003 and 2005 made by DG Comp shows that Germany have considerably worse

trends than the UK, although in a European context both markets are rather unconcentrated.

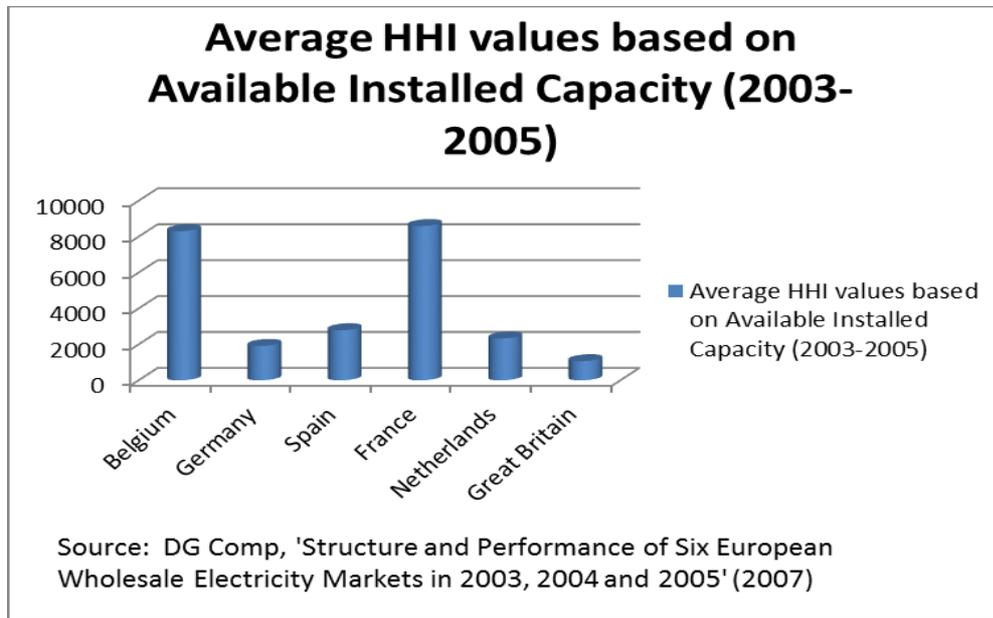


Figure 23 Generation HHI (2003-2005)

### Eurostat (Electricity – Generation)

There is Eurostat data available on the number of main electricity generators from 2003 until 2010. The regulatory changes concerned within this period are summarized in the table below.

Summary of regulatory changes in the electricity sector between 2003 and 2010		
Date	UK	Germany
2003-2004		
2005		Legal separation between generation and transmission

Summary of regulatory changes in the electricity sector between 2003 and 2010		
Date	UK	Germany
		Bundenetzagentur was established
2006		
2007		Legal separation between Distribution and supply
2008-2010		

Figure 24 Summary of regulatory changes in the electricity sector between 2003 and 2010

The data shows that the tendencies remained the same after 2005: the market in the UK is less concentrated than in Germany. Although the literature still talks about the Big Six, this source remarks that by 2010 there were 8 firms having higher than 5% market share on the generation level (which is used as a criterion to qualify as “main generator”). In contrast, the structure of 4 main firms remained constant in Germany throughout the period concerned.

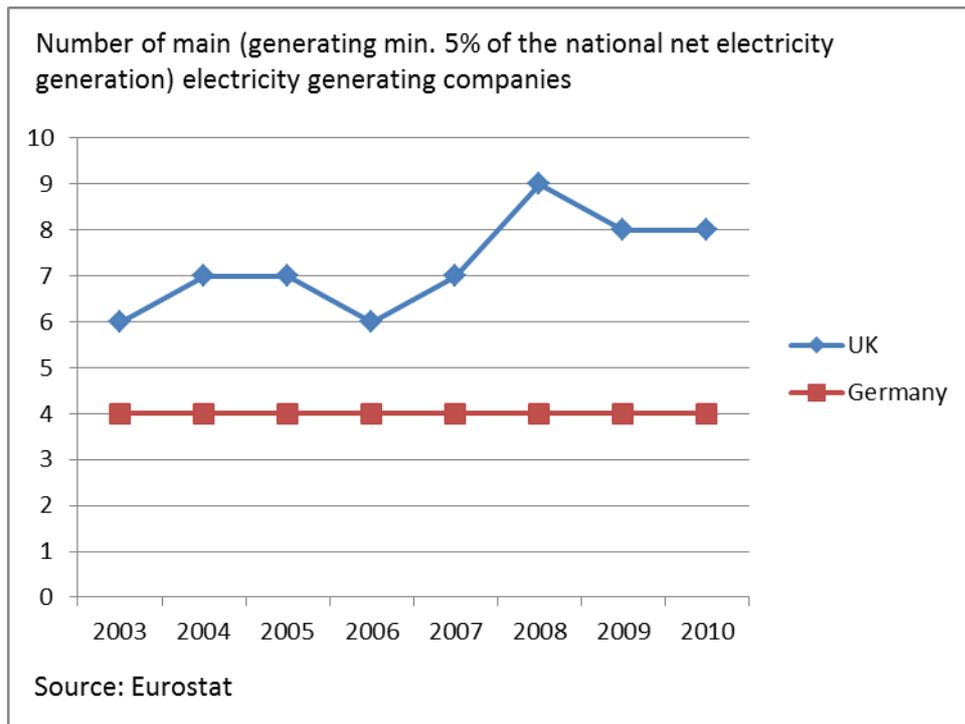


Figure 25 Number of major generators (2003-2010)

Correlation between the regulatory changes and changes in the market structure is questionable. It is true that the UK started with strong unbundling and a dedicated regulator and the market got less concentrated while in Germany there was no effective regulation at the beginning and the market got more concentrated. However, the regulatory situation improved significantly in Germany after 2005 but the data shows no changes after 2005.

### DECC and Bundesnetzagentur (Electricity – Supply)

Comparable data on the incumbent suppliers' market share loss is available for both the UK (data on the incumbents market shares are available from DECC website<sup>65</sup>) and Germany (data on the German electricity supply market is available

<sup>65</sup> DECC, 'Quarterly domestic energy customer numbers' available at: <https://www.gov.uk/government/statistical-data-sets/quarterly-domestic-energy-price-stastics> accessed at: 15/06/2014

from the regulators annual reports<sup>66</sup>). The data has been traced back to the date when legal separation became mandatory between businesses in the distribution and the supply levels, which means that the period covered in the UK is between 2000 and 2013 and in Germany between 2007 and 2012. The regulatory changes that took place within the period are summarized in the table below:

Summary of regulatory changes in the electricity sectors between 2000 and 2013		
Date	UK	Germany
2000	Legal separation between distribution and supply	
	Offer and Ofgas merged to Ofgem	
2001-2004		
2005		(Legal separation between generation and transmission)
		(Bundesnetzagentur has been established)
2006		
2007		Legal separation between Distribution and supply

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<sup>66</sup> from the German regulator's annual reports, available at: [http://www.bundesnetzagentur.de/cIn\\_1421/EN/General/Bundesnetzagentur/Publications/publications\\_node.html](http://www.bundesnetzagentur.de/cIn_1421/EN/General/Bundesnetzagentur/Publications/publications_node.html) accessed: 15/06/2014

Summary of regulatory changes in the electricity sectors between 2000 and 2013		
Date	UK	Germany
2008-2010		
2011		Unbundling provisions of the Third EU package transposed
2012		
2013	ERRA changes regulators' competition law powers	

Figure 26 Summary of regulatory changes in the electricity sectors between 2000 and 2013

In Germany before 2007 the incumbent basically enjoyed a monopoly position, the creation of the Bundesnetzagentur in 2005 did not affect the market structure, therefore, the period before 2007 is not shown below.

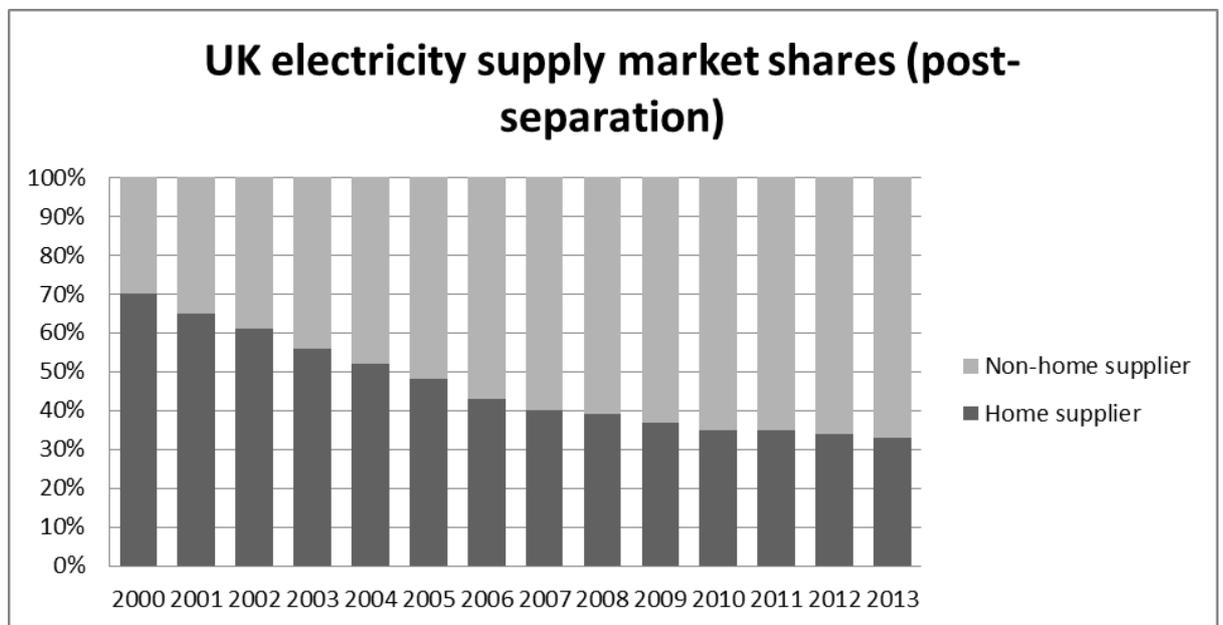
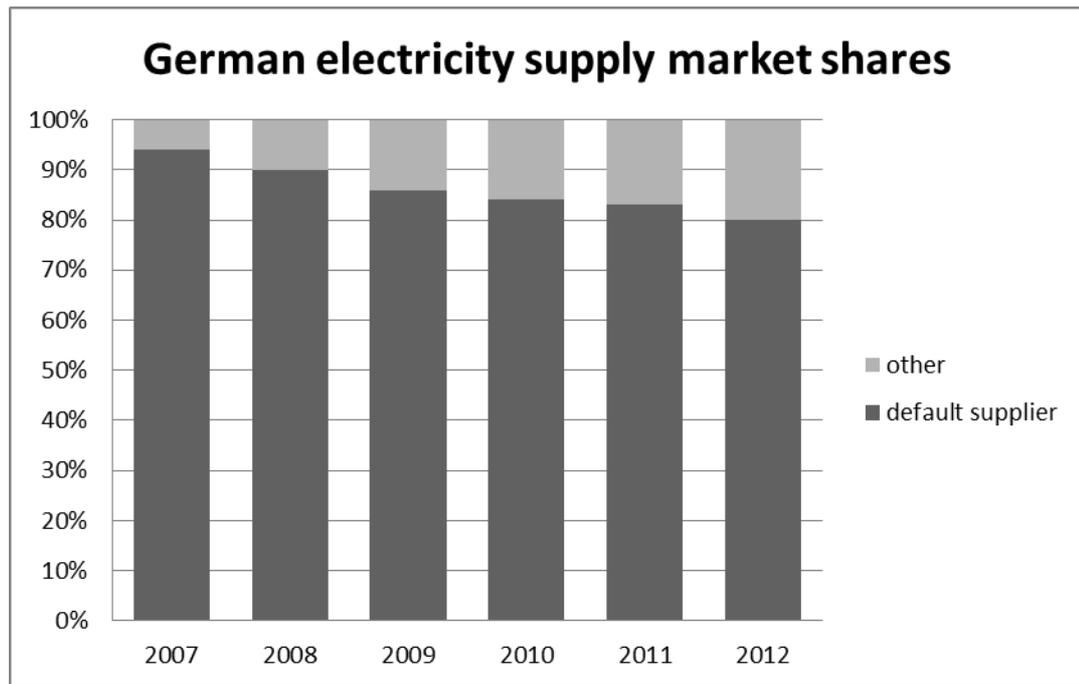


Figure 27 UK electricity supply market shares (2000-2013)



**Figure 28 Germany electricity supply market shares (2007-2012)**

There is a clear tendency of falling incumbent market shares in both cases, but in the UK the incumbents lost a share of 30% (on average) without mandatory legal separation, while in Germany even 5 years after the same unbundling the incumbents retained 80% of their markets, therefore it is hard to attribute the market share loss solely to the unbundling requirement.

### **Eurostat (Electricity – Supply)**

There is Eurostat data available on the number of retailers from 2003 to 2010. This data shows that the number of retailers is fairly high in the UK (20-30 companies), but it cannot even compare to Germany, where the number of retailers is extremely high (around a 1000 companies).<sup>67</sup> This looks promising at first sight

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<sup>67</sup> Cf 'Total number of electricity retailers to final consumers 2010' available at: [http://epp.eurostat.ec.europa.eu/statistics\\_explained/index.php?title=File:Total\\_number\\_of\\_electricity\\_retailers\\_to\\_final\\_consumers,\\_2010.png&filetimestamp=20120130132955#file](http://epp.eurostat.ec.europa.eu/statistics_explained/index.php?title=File:Total_number_of_electricity_retailers_to_final_consumers,_2010.png&filetimestamp=20120130132955#file) accessed: 12/07/2012

from the perspective of competitive. However, these numbers might be misleading considering that in 2006, 45% of the total electricity supplied can be accounted to the three biggest suppliers in Germany,<sup>68</sup> and in the UK although according to Eurostat in 2008 there were 23 suppliers, an Ofgem report states that in the same year over 99% of the electricity was supplied by the Big 6 firms.<sup>69</sup>

### **Bismut (Telecom)**

The study by Bismut compares the incumbents' fixed call market shares between 2001 and 2005.<sup>70</sup> The regulatory changes during this period are summarized in the table below:

Summary of regulatory changes in the telecommunications sectors between 2001 and 2005		
Date	UK	Germany
2001-2002		

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<sup>68</sup> Federal Network Agency, '2007 Report by the Federal Network Agency for Electricity, Gas, Telecommunications, Post and Railway to the European Commission on the German electricity and gas market' available at: [http://www.bundesnetzagentur.de/SharedDocs/Downloads/EN/BNetzA/PressSection/ReportsPublications/2007/MonitoringReport2007Id12648pdf.pdf? blob=publicationFile](http://www.bundesnetzagentur.de/SharedDocs/Downloads/EN/BNetzA/PressSection/ReportsPublications/2007/MonitoringReport2007Id12648pdf.pdf?blob=publicationFile) accessed: 11/07/2012 15

<sup>69</sup> Ofgem, 'Energy Supply Probe - Initial Findings Report' 140/08 available at: <http://www.ofgem.gov.uk/Markets/RetMkts/ensuppro/Documents1/Energy%20Supply%20Probe%20-%20Initial%20Findings%20Report.pdf> accessed: 13/07/2012 27

<sup>70</sup> Sophie Bismut (2006)

Summary of regulatory changes in the telecommunications sectors between 2001 and 2005		
Date	UK	Germany
2003	The 2002 EU directives has been transposed (new SMP regime)	
	Ofcom has been created (out of the merger of Oftel, the Radiocommunications Agency, the Broadcasting Standards and Independent Television Commission)	
2004		The 2002 EU directives has been transposed (new SMP regime)
2005	BT has been functionally separated	RegTP has been entrusted with electricity regulation

Figure 29 Summary of regulatory changes in the telecommunications sectors between 2001 and 2005

The data enables the assessment of tendencies before and after the new SMP regulation was put in place in the UK (2003) and in Germany (2004), and Ofcom was created (2003).

The data shows that both in the UK and in Germany the incumbents' market share was falling during the period concerned. Until 2001 BT's respective market share was higher than Deutsche Telekom's, but this changed in 2002, although in

Germany the reform started later than in the UK and within this period there was no difference in the regulations concerned. The trend continued and by 2005 Deutsche Telekom's market share was considerably lower than BT's, although BT was losing market share at the same time as well.<sup>71</sup>

Telecommunications	2001	2002	2003	2004	2005
Germany	67.2%	61.1%	54.8%	49.7%	47.2%
UK	62.0%	62.0%	60.0%	55.0%	55.0%

Figure 30 Telecom incumbent market shares data (2001-2005)

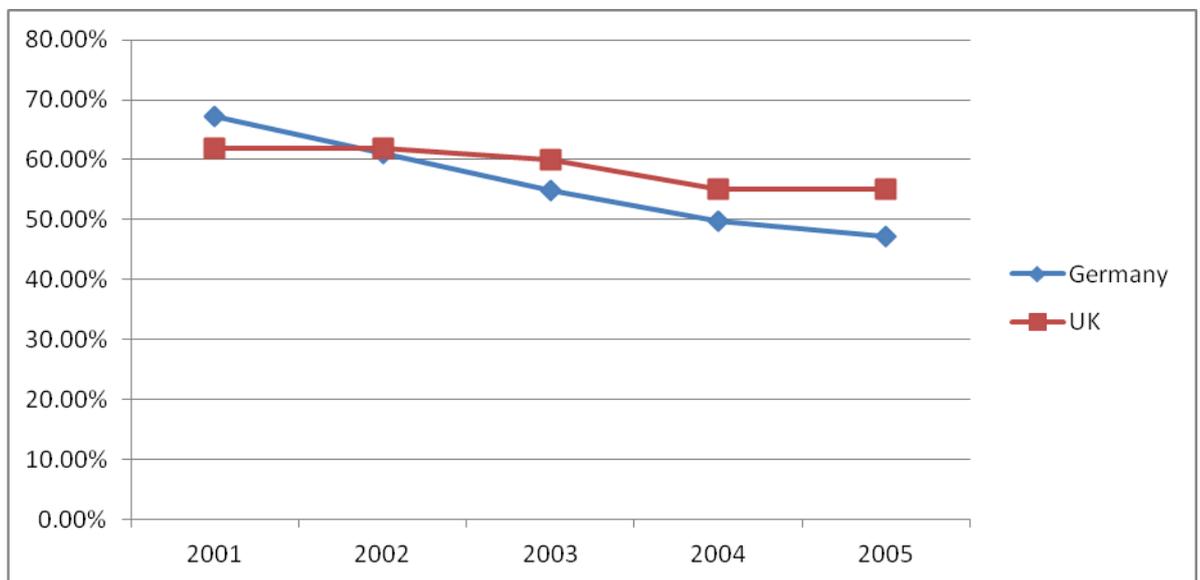


Figure 31 Telecom incumbent market shares graph (2001-2005)

There are no visible changes in the general tendencies at the times of the regulatory changes (2003 in the UK and 2004 in Germany).

<sup>71</sup> Bismut (2006) 19

## EUROSTAT (Telecom)

Eurostat data is available on the incumbent's market share from 2001 to 2005 in two different markets: 1) local, 2) national long distance and data on international calls is available until 2008 for the UK. The regulatory changes during the whole period are summarized in the table below:

Summary of regulatory changes in the telecommunications sectors between 2001 and 2005		
Date	UK	Germany
2001-2002		
2003	<p>The 2002 EU directives has been transposed (new SMP regime)</p> <p>Ofcom has been created (out of the merger of Oftel, the Radiocommunications Agency, the Broadcasting Standards and Independent Television Commission)</p>	
2004		The 2002 EU directives has been transposed (new SMP regime)
2005	BT has been functionally separated	RegTP has been entrusted with electricity regulation

Summary of regulatory changes in the telecommunications sectors between 2001 and 2005		
Date	UK	Germany
2006-2008		

Figure 32 Summary of regulatory changes in the telecommunications sectors between 2001 and 2005

According to this data, except for national long distance calls the trends in Germany are better than in the UK. While in the markets of local and national long distance calls both in the UK and in Germany the tendencies are better than the EU average, and by 2005 there is only a small difference between the UK's and Germany's incumbents' market share, on the market of international calls BT managed to hold a strong position.

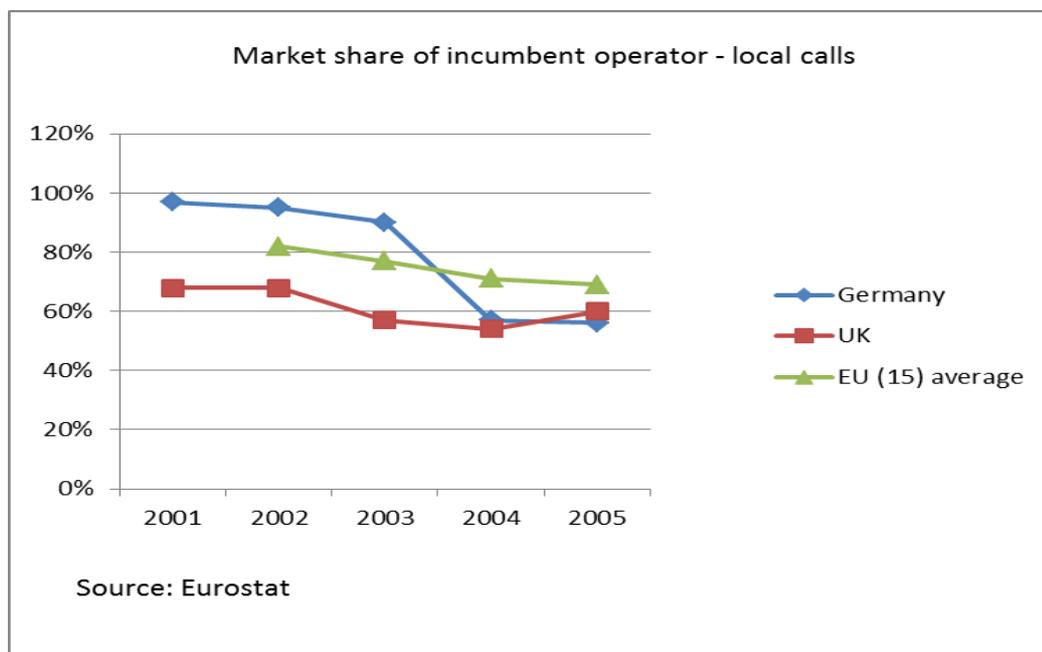


Figure 33 Incumbents' market shares - local calls (2001-2005)

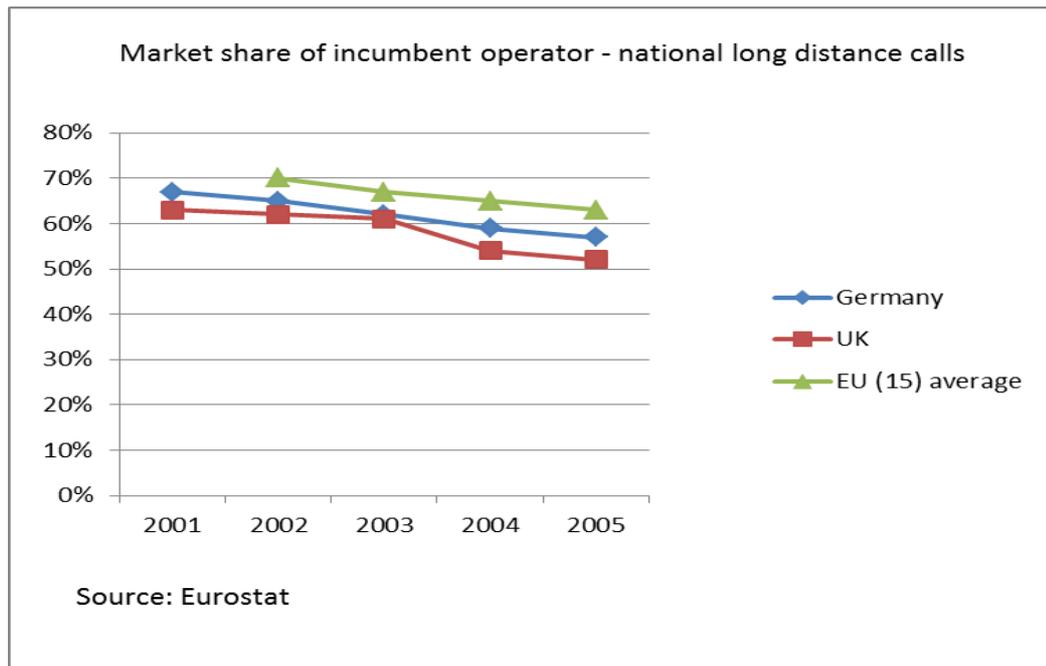


Figure 34 Incumbents' market shares - national long distance calls (2001-2005)

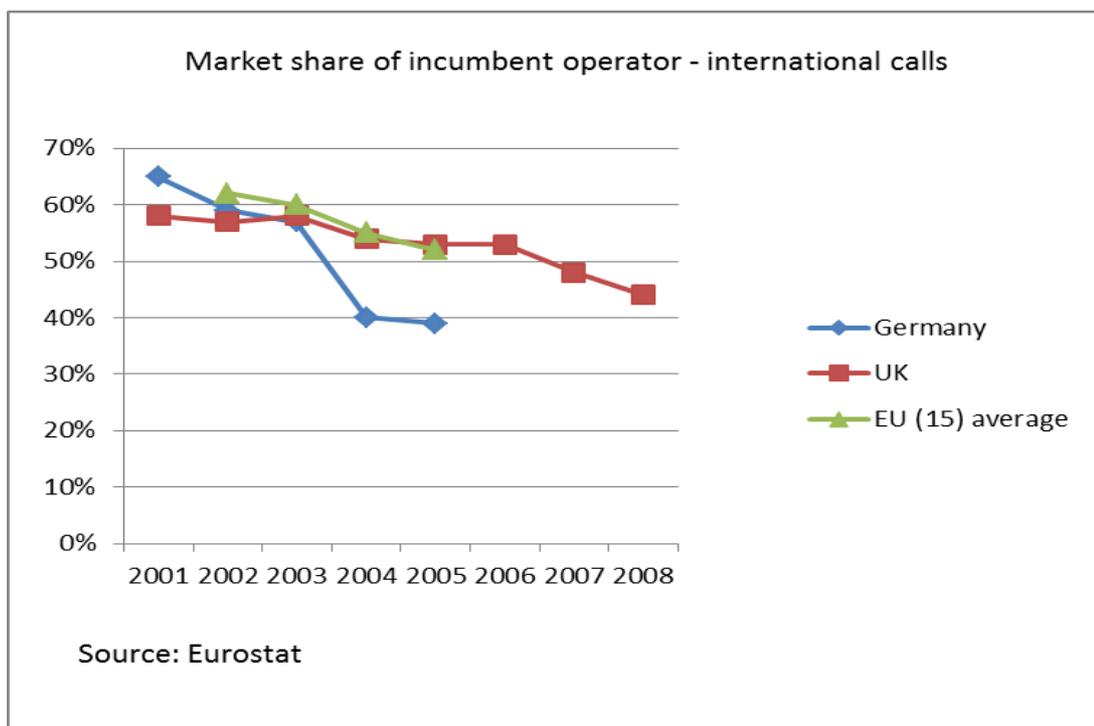


Figure 35 Incumbents' market shares - international calls (2001-2005)

Regulatory changes in the UK are not correlating with any unusual trends. Neither the creation of Ofcom and the transposition of the new SMP regulation in 2003, nor the separation of BT in 2005 (as far as the data on the market shares for international calls is concerned) has been followed by differences in the existing market share trends. Interestingly, in Germany the incumbent lost significant

market share both in the local and international calls just a year before the new SMP regulation came into effect.

### **Ofcom and Bundesnetzagentur (Telecommunications – Broadband)**

It is interesting to assess another telecommunications market, broadband, that also involves the use of the local loop, but which is a relatively new and growing market. Data on the incumbents' broadband market shares are available from Ofcom (BT broadband)<sup>72</sup> and the Bundesnetzagentur (DT broadband)<sup>73</sup> from 2002 to 2012. The regulatory changes that took place within this period are summarized in the table below:

Summary of regulatory changes in the telecommunications sector between 2002 and 2012		
Date	UK	Germany
2002		
2003	The 2002 EU directives has been transposed (new SMP	

<sup>72</sup> Post 2007 data: Ofcom, 'BT and Sky had the highest growth in broadband market share in 2012' available at: [stakeholders.ofcom.org.uk/market-data-research/market-data/communications-market-reports/cmr13/uk/UK-5.34](http://stakeholders.ofcom.org.uk/market-data-research/market-data/communications-market-reports/cmr13/uk/UK-5.34) accessed at: 15/06/2014,

Pre-2007: Ofcom, 'Impact of the Telecoms Strategic Review Evaluation' available at: [stakeholders.ofcom.org.uk/binaries/telecoms/policy/bt/tsr\\_statement.pdf](http://stakeholders.ofcom.org.uk/binaries/telecoms/policy/bt/tsr_statement.pdf) accessed at: 15/06/2014, p. 40

<sup>73</sup> Bundesnetzagentur, 'Annual Report 2012 Energy, communications, mobility: shaping expansion together' available at: [http://www.bundesnetzagentur.de/SharedDocs/Downloads/EN/BNetzA/PressSection/ReportsPublications/2013/AnnualReport2012.pdf?\\_\\_blob=publicationFile&v=3](http://www.bundesnetzagentur.de/SharedDocs/Downloads/EN/BNetzA/PressSection/ReportsPublications/2013/AnnualReport2012.pdf?__blob=publicationFile&v=3) accessed at: 15/06/2014, p. 75

Summary of regulatory changes in the telecommunications sector between 2002 and 2012		
Date	UK	Germany
	regime)	
	Ofcom has been created (out of the merger of Oftel, the Radiocommunications Agency, the Broadcasting Standards and Independent Television Commission)	
2004		The 2002 EU directives has been transposed (new SMP regime)
2005	BT has been functionally separated	RegTP has been entrusted with electricity regulation
2006-2012		

Figure 36 Summary of regulatory changes in the telecommunications sector between 2002 and 2012

There has been a significant decrease in DT's (the German telecommunications incumbent's) market share at the beginning of this period but the incumbent's market share in the UK has generally been, and is still much lower than in Germany.

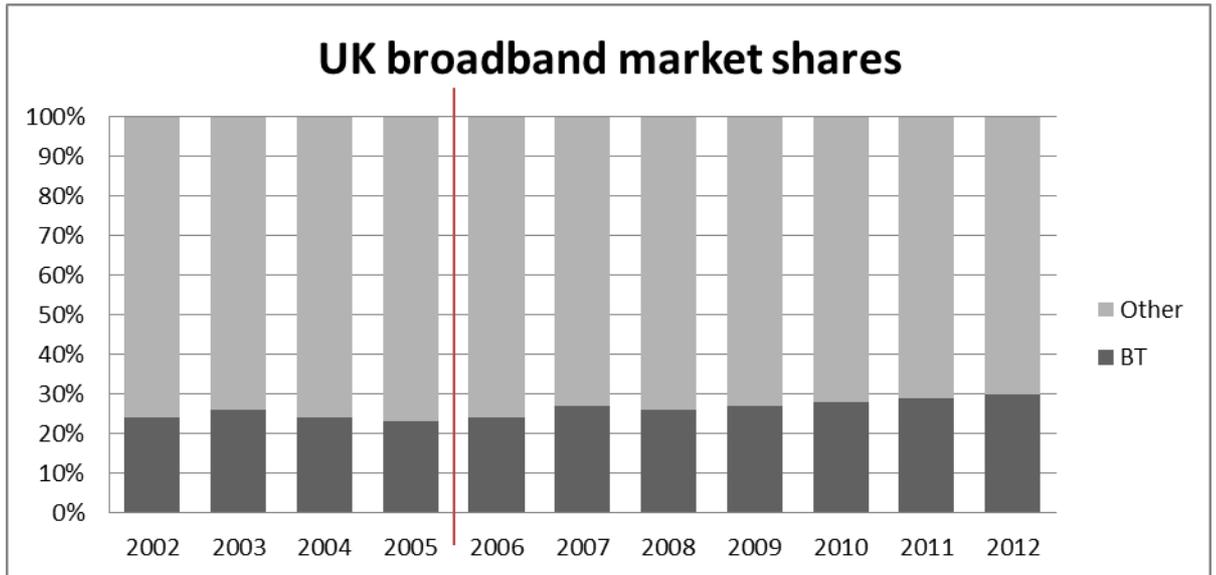


Figure 37 UK broadband market shares (2002-2012)

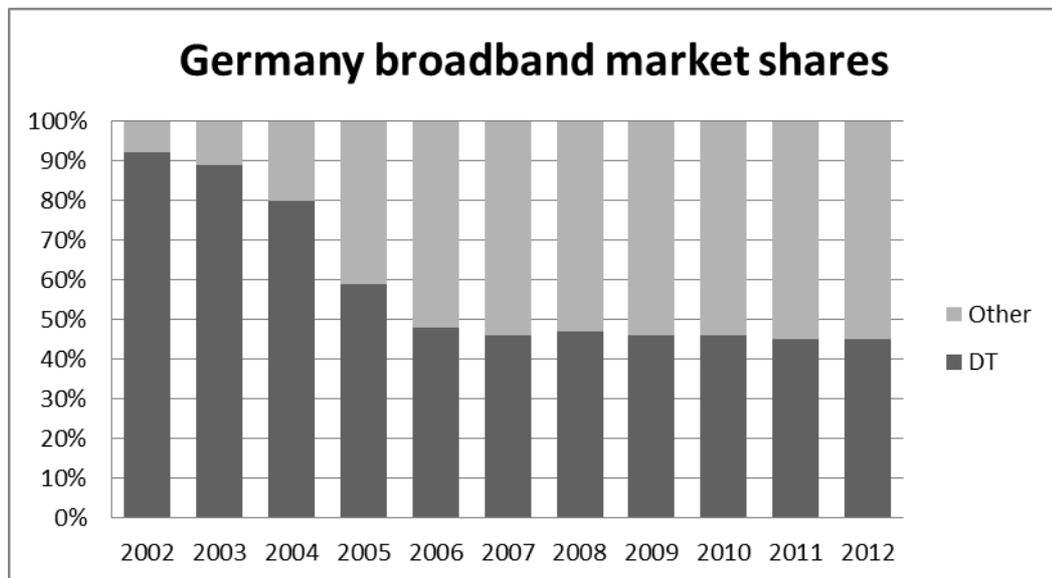


Figure 38 Germany broadband market shares (2002-2012)

In the UK neither the creation of Ofcom, nor the separation of BT resulted in any change in BT's market share tendencies. Also in Germany, the incumbent's market share has already started to fall before the new SMP regulation came into force in 2004, and continued to fall with roughly the same pace until 2006, therefore, according to this data it cannot be established that a change in the market share trends is linked to regulatory changes.

### 3.3. Consumer Satisfaction

If competition enhances consumer satisfaction (as Geradin suggests<sup>74</sup>) than enhanced consumer satisfaction might be a result of enhanced competition. More generally, consumer satisfaction can be regarded as an evaluation of objective evidence.<sup>75</sup>

The way consumers' opinion should be used to enact new policies is not unproblematic, mainly because the objectivity of such data is questionable. Prices and market share can be regarded as objective data, as it does not depend on one's opinion, while consumer satisfaction is subjective: consumer A may be completely satisfied with a given price while consumer B may see it as too expensive,<sup>76</sup> but overall trends are still informative. Furthermore, leaving such input out of consideration at the policy-making would be undemocratic;<sup>77</sup> ultimately policy makers are dependent on consumers support.<sup>78</sup> Moreover, consumers' feedback on regulatory development has a unique importance, as the reforms are ultimately aimed at enhancing their welfare.<sup>79</sup> Consumer satisfaction is also shaped by important features such as the quality of the service that would be missed by looking at only prices and market shares.

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<sup>74</sup> Damien Geradin, 'Regulatory issues raised by network convergence: the case of multi-utilities' (2001) 2 *Journal of Network Industries*, 113, 113

<sup>75</sup> Carlo V. Fiorio, Massimo Florio, 'Do you pay a fair price for electricity? Consumers' satisfaction and utility reform in the EU', (2008) 12 *Department of Economics Working Paper*, University of Milan, 2

<sup>76</sup> CF P. A. Ferrari, S. Salini, 'Measuring Service Quality: The Opinion of Europeans about Utilities' (2008) 36 *Nota Di Lavoro* available at: <http://www.feem.it/userfiles/attach/Publication/NDL2008/NDL2008-036.pdf> accessed 22/05/2012  
3

<sup>77</sup> Judith Clifton, Daniel Díaz-Fuentes, 'Evaluating Eu Policies On Public Services: A Citizens' Perspective' (2010) 81:2 *Annals of Public and Cooperative Economics* 284

<sup>78</sup> Fiorio, Florio (2008) 2

<sup>79</sup> CF Clifton, Díaz-Fuentes (2010) 282-283

## Eurobarometer surveys

Eurobarometer Surveys have been carried out on consumer satisfaction from an early stage of the reforms. The surveys included both electricity and fixed telephony in all the Member States. The same method was used to calculate consumer satisfaction in all the countries and sectors concerned therefore, the results can be used for a cross-country and cross-sectoral comparison. The first one of the series was published in 1997,<sup>80</sup> than follow-up surveys were published in 2000,<sup>81</sup> 2002,<sup>82</sup> 2005<sup>83</sup> and 2007.<sup>84</sup> The methodology used for the 1997 survey was different from the latter ones,<sup>85</sup> which has to be taken into consideration when assessing the results.<sup>86</sup> There was also a change after 2002: since then non-consumers (of the service concerned) were surveyed as well.<sup>87</sup> While the format of the 2005 and 2007 surveys show many similarities, there is one big difference: the 2007 survey does not contain data on overall consumer satisfaction in respect of the countries and sectors concerned that is why it is not included in the graphs.

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<sup>80</sup> EC, 'Eurobarometer 47.0: L'Europe des Consommateurs, Les Citoyens face a l'ouverture a la concurrence des monopoles de services public.' 1997 available at: [http://ec.europa.eu/public\\_opinion/archives/ebs/ebs\\_110\\_public\\_fr.pdf](http://ec.europa.eu/public_opinion/archives/ebs/ebs_110_public_fr.pdf) accessed: 20/05/2012

<sup>81</sup> EC, 'Eurobarometer 53 : Les Européens et les services d'intérêt généraux.' 2000 available at: [http://ec.europa.eu/consumers/cons\\_int/serv\\_gen/cons\\_satisf/sur15\\_fr.pdf](http://ec.europa.eu/consumers/cons_int/serv_gen/cons_satisf/sur15_fr.pdf) accessed: 20/05/2012

<sup>82</sup> EC, 'Eurobarometer 58: Consumers' opinions about Services of General Interest.' 2002 available at: [http://ec.europa.eu/public\\_opinion/archives/ebs/ebs\\_176\\_summ\\_en.pdf](http://ec.europa.eu/public_opinion/archives/ebs/ebs_176_summ_en.pdf) accessed 20/05/2012

<sup>83</sup> EC, 'Eurobarometer 219 Consumers opinions on Services of General Interest.' 2005 available at: [http://ec.europa.eu/public\\_opinion/archives/ebs/ebs\\_219\\_report\\_en.pdf](http://ec.europa.eu/public_opinion/archives/ebs/ebs_219_report_en.pdf) accessed: 20/05/2012

<sup>84</sup> EC, 'Eurobarometer 260, Consumers opinions on Services of General Interest.' 2007 available at: [http://ec.europa.eu/consumers/cons\\_int/serv\\_gen/cons\\_satisf/eb260\\_report\\_en.pdf](http://ec.europa.eu/consumers/cons_int/serv_gen/cons_satisf/eb260_report_en.pdf) accessed: 20/05/2012

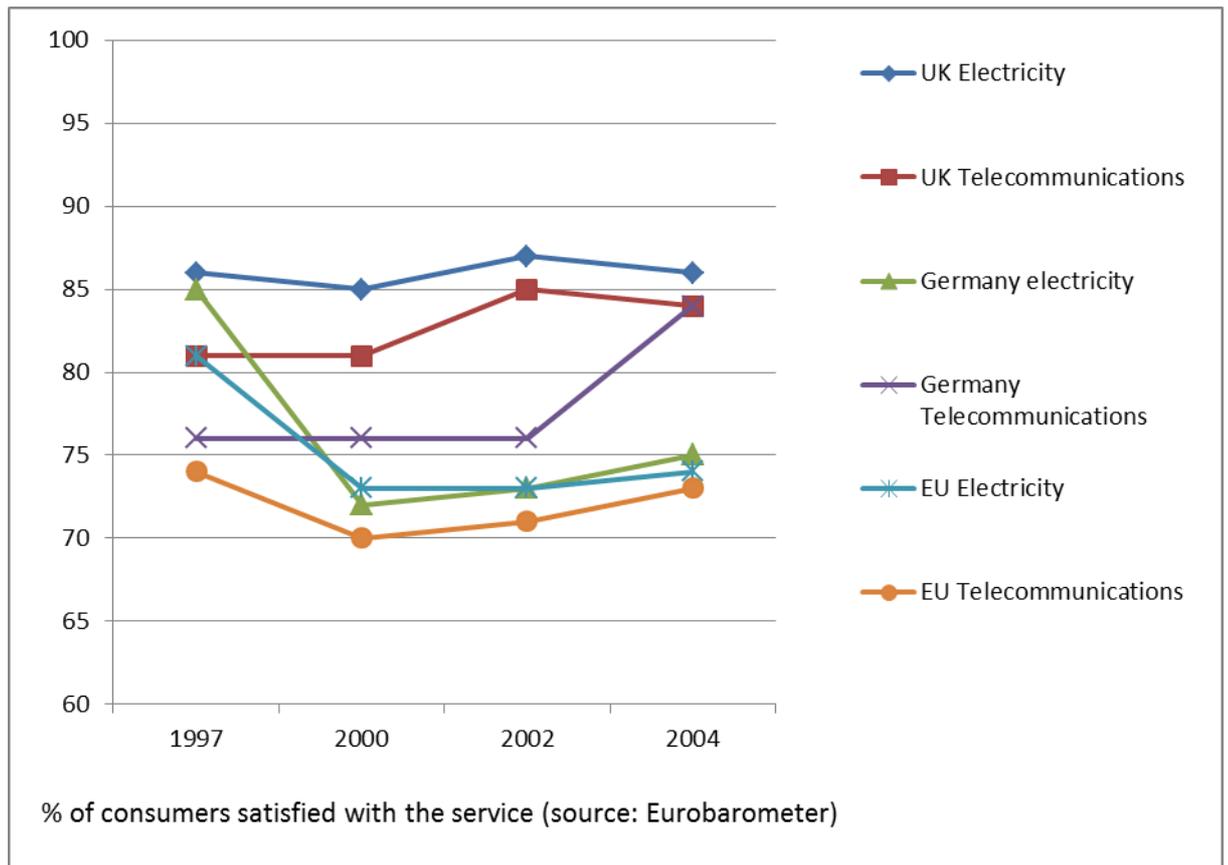
<sup>85</sup> Judith Clifton, Francisco Comín, Daniel Díaz Fuentes, 'Empowering Europe's citizens? On the prospects for the Charter of Services of General Interest' (2005) 7:3 Public Management Review, 432

<sup>86</sup> Clifton, Díaz-Fuentes (2010) 293

<sup>87</sup> *Ibid* 300

Since, the surveys are carried out bi-annually, or even less frequently, it is unlikely that meaningful connections can be made with the regulatory changes. The data is nevertheless useful to discover general tendencies.

The overall measures of consumer satisfaction through time are summarized in the graph below:



**Figure 39 Consumer satisfaction - satisfied (1997-2004)**

According to Eurobarometer data, consumers are the most content with the UK electricity sector, there has been little change in this: it has been valued high throughout the period assessed. 84% of the consumers were satisfied with the fixed-telecommunications services of both the UK and Germany in 2004, however the German telecommunications sectors shows bigger improvement since 1997. Consumers were the less satisfied with the German electricity service in 2004, also its evaluations got much worse during the period concerned. The serious drop between 1997 and 2000 could have occurred due to the difference in the way the 1997 survey was carried out, however in the other three sectors there is no trace of

a similar patten, which goes against such an argument. Except for the German electricity sector, the consumer satisfaction levels are fairly above the EU average.

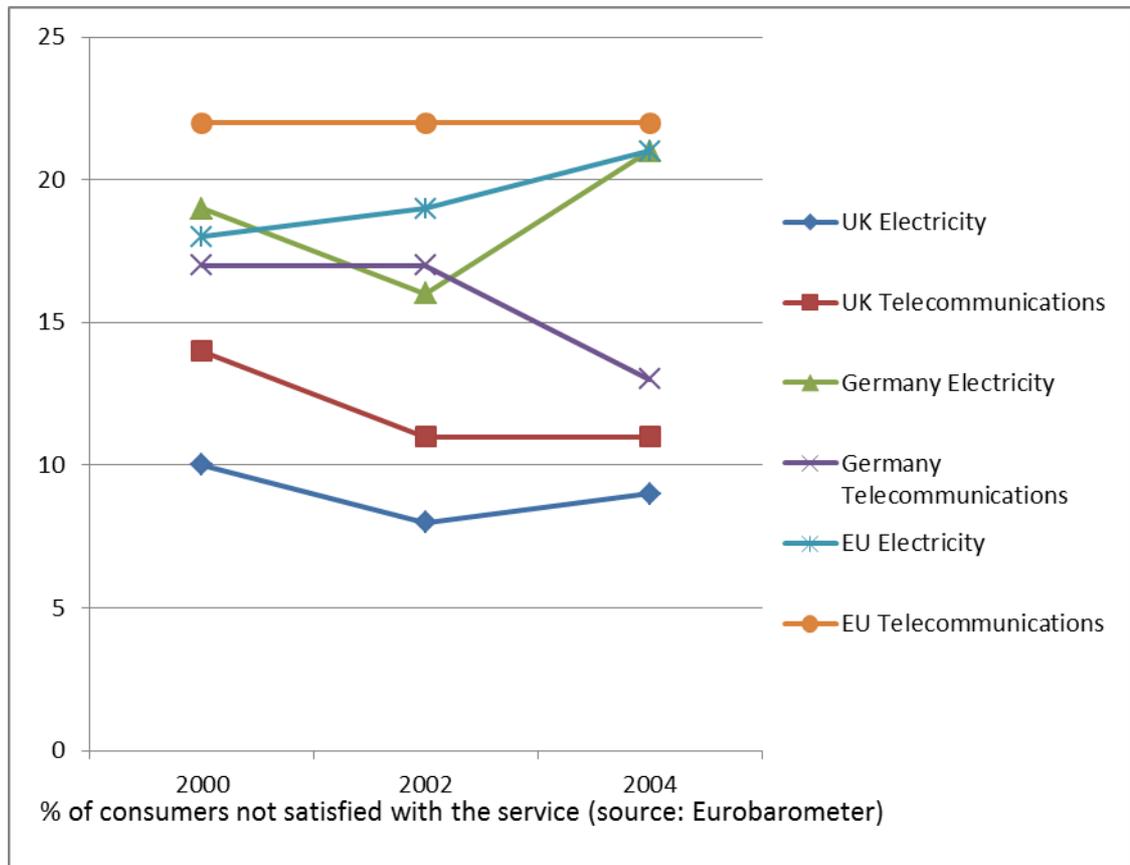


Figure 40 Consumer satisfaction - dissatisfied (2000-2004)

The Eurobarometer 47.0 (1997) did not contain data on the percentage of dissatisfied consumers, so in this aspect information is only available from 2000. The dissatisfaction ratios are in general consistent with the ranking established above: this means that there is relatively no big difference between consumers' view of any given sector. Having a high ratio of quite satisfied but also quite dissatisfied consumers would mean that there are big differences in the services of the sector. Since this is not the case, we can assume that services tend to be rather homogeneous. Consumers are the most dissatisfied with the German electricity sector. While the statistics show some improvement between 2000 and 2002, the proportion of unsatisfied consumers has risen significantly by 2004. Consumers were still more dissatisfied with the German telecommunications services than with the UK's by 2004, however, the tendency there is slightly better than in the UK. The ratio of unsatisfied consumers is the lowest in the UK electricity sector.

The satisfaction levels so far are broadly consistent with what we expected based on the development of the reforms. Within this period, among the reforms concerned the UK electricity reform has been the most mature: it started in 1989, with the unbundling of the generation and the transmission levels (but also the supply and the distribution businesses have been separated after 2000) and the creation of a regulatory authority. The UK telecommunications sector is the second most mature (if we disregard the period dominated by the failed duopoly policy). The market has been liberalised, and a regulator has been created, although there has been no unbundling carried out within this time frame. The telecommunications reform in Germany lagged behind the UK, but in 1998 a regulator has been created for the telecommunications sector as well, and SMP regulation has been applied. In the Germany electricity sector, however until 2005 there was no adequate regulatory supervision or unbundling.

## **IPSOS INRA**

The European Commission ordered a consumer satisfaction survey in 2005 which was carried out by IPSOS INRA and was published in 2007.<sup>88</sup> Interestingly, the results of this survey significantly differ from the 2004 Eurobarometer survey, although it was carried out only two years after that.

The IPSOS survey shows that the ratio of satisfied German electricity consumers is considerably higher than the ratio of such UK consumers and also higher than the EU average. The proportions of the latter two are fairly the same. Also, the ratio of

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<sup>88</sup> IPSOS INRA, 'Consumer Satisfaction Survey - Final Report' (2007) available at: [http://ec.europa.eu/consumers/cons\\_int/serv\\_gen/cons\\_satisf/consumer\\_service\\_finrep\\_en.pdf](http://ec.europa.eu/consumers/cons_int/serv_gen/cons_satisf/consumer_service_finrep_en.pdf) accessed: 22/05/2012

dissatisfied consumers is lower in Germany than in the UK, which is even higher than the EU average.

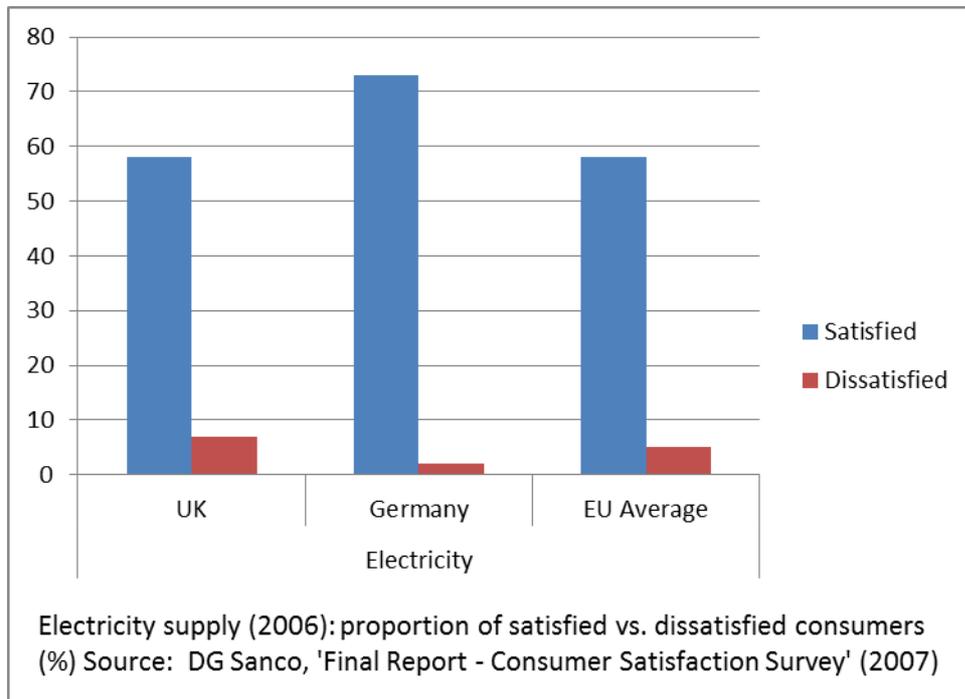
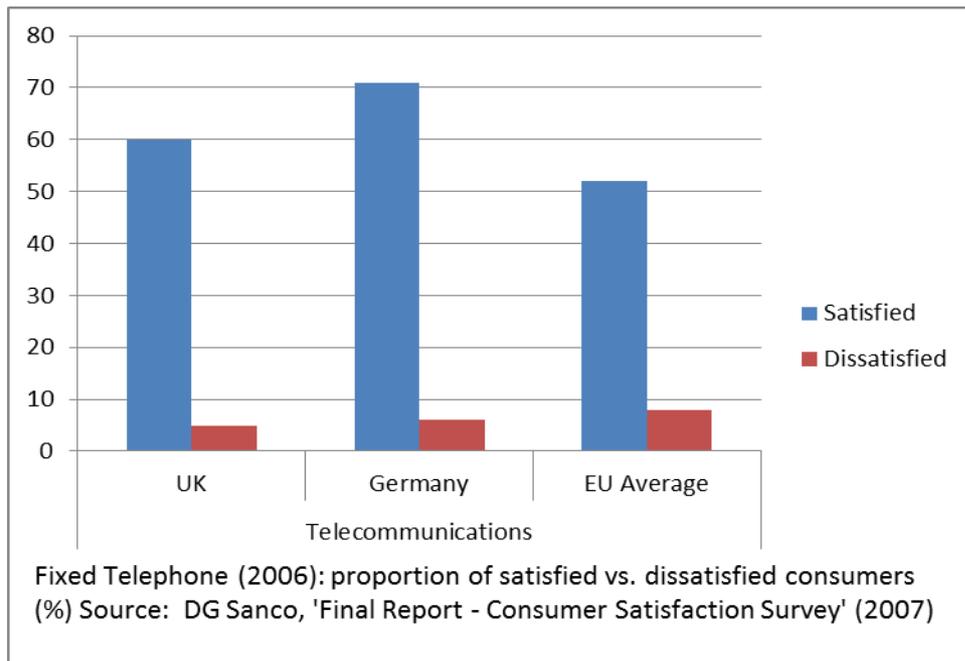


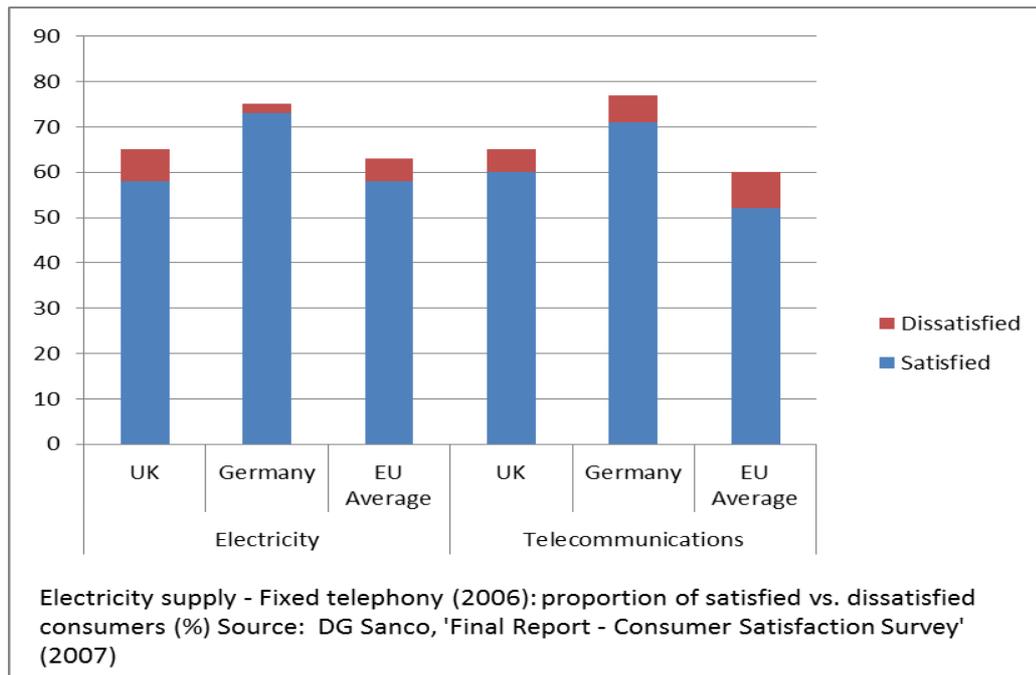
Figure 41 Consumer satisfaction - electricity (2007)

In terms of fixed telephone the results are not so straightforward: the ratio of satisfied German consumers is higher, however the ratio of dissatisfied German consumers is also higher than in the UK. At the same time both countries are better than the EU average in both respects: satisfaction rate is higher, while dissatisfaction rate is lower.



**Figure 42 Consumer satisfaction - telecommunications (2007)**

Overall, this source suggests that consumers are the most satisfied with the German electricity supply, where the ratio of satisfied consumers is the highest. They are the second most satisfied with German fixed telephony supply, where the ratio of satisfied consumers is the second higher overall, however, the ratio of dissatisfied consumers is considerably higher than in the German Electricity supply. The third in the ranking is the UK's fixed-telephony service, with the third highest ratio of satisfied consumers. The UK electricity supply has the worst figures: it has the lowest ratio of satisfied consumers, and also a relatively high ratio of dissatisfied consumers. This ranking is exactly the opposite of the 2004 Eurobarometer survey's.



**Figure 43 Consumer satisfaction (2007)**

Within the two years between 2004 and 2006 considerable regulatory improvements were carried out in the German electricity sector. The Bundesnetzagentur stepped up as a dedicated regulator (ex-ante) for the electricity sector and the generation levels has been separated from the transmission businesses (but distribution and supply still remained integrated). Also the new SMP regulation came to effect in Germany in 2004.

Furthermore, in the telecommunications sector of the UK the incumbent has been separated, while there was no change in the electricity regulation, and during the period satisfaction with telecommunication overtook electricity. At the same time in Germany the telecommunications incumbent remained intact and consumer satisfaction with telecommunications was even higher in Germany than in the UK.

## 4 Analysis

The assessment of the “objective” figures is rather complex. Due to their obvious differences,<sup>89</sup> they are not compared directly, but rather through their tendencies; we assess to what extent they reflect the initial expectations.

Both the comparisons of price tendencies and changes in the incumbent market shares<sup>90</sup> seem to suggest that the telecommunications reforms (a clear distinction between the UK and Germany cannot be made) have the best tendencies. They are followed by the UK electricity reform, while the German electricity reform shows the worst trends.

The Commission’s method of looking at wholesale electricity prices has been rejected on the basis that it does not take into account the incentives for cross-financing and other data is used. According to those data, until 2007-2008 electricity prices in the UK were lower than in Germany, but since then the prices in the two countries got quite close while industrial electricity prices in the UK became even higher than in Germany. Assessing the tendencies of the telecommunications prices is not straightforward. In terms of household prices different sources have different results; however, generally prices tend to be lower in the UK, although UK prices are generally increasing, while they are generally falling in Germany. The comparison of the tendencies of the business prices is simpler: they are clearly better in Germany than in the UK.

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<sup>89</sup> For example market shares in electricity generation and telecommunications obviously differ on the basis of structural intervention or simply naturally different starting points; in the UK the f generation portfolio was separated horizontally, in Germany numerous generators existed at the beginning of the reforms, while in telecommunications the incumbents were not divided horizontally. Also comparing electricity prices to telecommunications prices would be comparing apples to oranges, although this could be overcome by using indexes.

<sup>90</sup> Although due to the already mentioned structural differences (which necessitated different data to be used) the cross-sectoral comparison of the market structures is not as robust as the cross sectoral price comparisons.

The assessment of the electricity market concentration data is fairly straightforward: after the series of mergers in Germany the generation level became much more concentrated than it is in the UK (although in an EU context, both countries are fairly unconcentrated). The tendencies are the same in the supply levels: the UK incumbents lost market share to a much higher extent than their German counterparts. In terms of the telecommunications sectors there are different results for the different markets (Germany is better in two, while the UK is in one), but Bismut's combined assessment suggests that the German tendencies are better.

The assessment of the consumer surveys' results is less straightforward. According to the Eurobarometer surveys, the tendencies between 1997 and 2004 are the best in the UK electricity industry. This is followed by the telecommunications industries of the UK and Germany. It is difficult to establish which one is superior out of these two, as according to the 2004 figures the UK is still ahead of Germany but since 1997 the German tendencies are slightly better. The German electricity sector has clearly the worst tendencies.

However, a more recent source, the IPSOS (2006) survey suggests that consumers are the most satisfied with the German electricity sector which is followed by the German Telecommunication sector, the UK's telecommunications and lastly the UK's electricity sector.

Until 2004 (the last Eurobarometer survey) data on consumer satisfaction and prices and market share tendencies are broadly consistent. However, the IPSOS survey carried out in 2006 shows a completely different picture: German consumers being more satisfied than consumers in the UK. This is surprising at first sight, although it is consistent with the finding of Fiorio and Florio namely, that, there is no correlation between the advanced state of the reforms and consumer satisfaction.<sup>91</sup> At the same time the "subjective" feedback does not seem to reflect

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<sup>91</sup> Fiorio, Florio (2008) 2

the “objective” data. Pricing tendencies in all sectors has been improving in Germany after 2004 in compared to the UK, but in general and especially in electricity they still remained higher until 2006. Arguably, there is a connection between the objective factors assessed so far and consumer satisfaction: according to the IPSOS survey “pricing issues are major factors determining consumer satisfaction”.<sup>92</sup> The other factors assessed in the report are image and quality. Consumers tend to take quality for granted, so this factor only affects the overall consumer satisfaction to a minor extent. The IPSOS report itself establishes that “[q]uality of service is the element that has the least influence on overall consumer satisfaction”.<sup>93</sup> This is because these sectors generally speaking tend to work fine, and there is not much opportunity for further development.<sup>94</sup> According to the IPSOS study, the suppliers’ image has a more significant role in telecommunications than in the electricity sector, however even this factor is considerably less important (in both sectors) than prices.

The most significant finding in terms of consumer satisfaction is that the data does not support the superiority of telecommunications over electricity. In the UK in 2006 consumers were more satisfied with telecommunications than with electricity but before (between 1997 and 2004) it was the other way around. In Germany by 2004 the consumers were more content with electricity services than with telecommunications. These results are unexpected since price tendencies are generally better in telecommunications than in electricity.

The IPSOS survey notices this anomaly to some extent: although fixed-telephony prices have been high in the EU and recently there were serious reductions, consumers now regard fixed telephony as a very basic service and they are still not

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<sup>92</sup> IPSOS INRA (2007) 18

<sup>93</sup> IPSOS INRA (2007) 19, 37

<sup>94</sup> *Ibid* 40

content with the prices. The Report does not go into details in terms of the reasons; it only shortly mentions two factors:

- “liberalisation of the telecoms industry has put the spotlight on the different tariffs charged by different operators in different countries”
- “competition between information technologies”

It is true that in a democratic setup, before such elemental reforms are carried out, support of the public is essential. At the same time convincing the public that the reforms are essential may easily lead to the exaggeration of the expected benefits. This, however, can strike back later on: having higher expectation about the benefits than it is realistic may result in the underestimation of the achievements. This argument still does not explain the differences between the two sectors in terms of consumer satisfaction, since similar reforms have been carried out in the electricity sector as well.

The second reason, however reinforces the importance of techno-economic factors, while providing a more sound explanation for the matter. While electricity has no alternatives, fixed telephony has.<sup>95</sup> Mobile telephony offers a substitute to fixed telephony and at the same time that service is clearly superior to fixed telephony. While both services enable consumers to communicate by voice, mobile has the advantage of portability: those having a mobile handset can reach and can be reached wherever they are.<sup>96</sup> Fixed telephony is only an option when the consumer is at home, however, even in that case she might prefer to use her mobile phone, or might receive a call on her mobile phone. The EU trends of the amount of voice calls made by fixed and mobile telephony seem to illustrate this: mobile is getting on the way up while fixed telephony is on the way down,

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<sup>95</sup> Pierre Larouche, ‘A closer look at some assumptions underlying EC regulation of electronic communications’ (2002) 3 *Journal of Network Industries*, 129, 138

<sup>96</sup> Considering that coverage for mobile is in quite an advanced state, but in any case portability is a clear advantage.

furthermore the share lost by fixed telephony is almost equal to the share gained by mobile telephony.

Correlations between regulatory changes and changes in the trends of the outcomes were assessed in detail in the previous part. While some distinctive trends in the data started after regulatory changes in the given sector<sup>97</sup>, in general we found no strong correlations between changes in the outcomes and changes in the regulations. Since the factors defining the outcomes are quite complex, this result is not surprising. At the same time it underlines the need for more qualitative approach when assessing the effects of the different regulations.

## **5 Conclusion**

The general aim of this chapter (besides providing a general overview of the regulatory outcomes of the reforms) has been to assess the tendencies in the outcomes of the reforms, to see which sectors/country seem to achieve better, and so whether there may be scope for lessons to be learnt.

There are many ways of assessing a sector reforms. This chapter uses three practical indicators: price and market share tendencies, and consumer satisfaction.

With some limitations made earlier, according to the assessment of the price and market concentration tendencies, the telecommunications reform seems to have the best trends in both countries concerned. Price tendencies are slightly better in Germany than in the UK, and the incumbent's market share has been eroded to a much greater extent in the UK. The electricity reforms appear less successful:

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<sup>97</sup> Such as price falls in the German telecommunications sector after the reform started.

however the tendencies in the UK's electricity sector are still much better than the Germans'.

Looking at consumer satisfaction data makes this conclusion less straightforward, since in Germany according to the latest survey consumers were more content with electricity than with telecommunications (although in the UK this was not the case). However, further analysis suggests that this is the result of non-regulatory factors which underlines the importance of such issues. Consumers have very different perceptions about electricity and fixed-telephony. They see electricity as an essential service, while fixed-telephony has alternatives and is therefore not that much indispensable.<sup>98</sup>

The comparison of the UK's and Germany's electricity and telecommunications reform offer a good opportunity to compare regulatory solutions, because the regulatory attitudes differ significantly in these two member states and there are even more differences between the sectors concerned. Between the 4 sectors concerned, 3 main regulatory differences have been identified, which concern:

- unbundling,
- regulatory institutions and
- SMP regulation

The analysis has found limited evidence for changes in the regulatory solutions correlating with the data. This does not mean that the different regulatory solutions have no measurable effect on the data, but rather that in order to be able to evaluate these regulatory solutions a more qualitative approach is necessary.

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<sup>98</sup> And perhaps have never been as indispensable as electricity, as the case of East Germany suggest.

### **III. Chapter 2: Vertical separation in Network Utilities: is the EU approach of applying different policies in different sectors justified?**

#### **Abstract**

The aim of this paper is to assess whether the tendency of different regulatory priorities in the EU - namely increasingly stricter separation of the networks in the electricity sector and predominantly simple access regulation in telecommunications<sup>99</sup> - is justified, considering that in theory stricter separation should lead to better access but, arguably, during this policy, competition developed better in the telecommunications than in the electricity sector. The UK is compared to Germany, in order to be able to carry out cross country (as well as cross-sectorial) analysis. The attitude towards vertical separation between these countries is very different: the UK typically chooses stronger while Germany weaker solutions, which make them an interesting basis of comparison.

The chapter has two parts. The first part looks at the theory behind vertical separation while the second looks at the issue in practice. The theoretical part starts with describing the pros and cons of vertical separation, focusing on efficiency. The second section of the first part focuses on competition and vertical separation (between monopolistic and competitive levels). The third part looks at the different degrees of vertical separation. The first part concludes that vertical separation could result in efficiency gains or losses, but it should facilitate competition because it makes entry easier. The different degrees of separation may be used to strike a balance between the two: enabling higher efficiency (when

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<sup>99</sup> John Vickers, 'Competition and Regulation in Vertically Related Markets' (1995) 62 (1) *The Review of Economic Studies*, 1, 2

integration leads to enhanced efficiency) while providing adequate entry and thereby facilitating competition.

The second part tests whether vertical separation does facilitate entry in practice. First the relevant EU regulations are described. Then the basis of the comparison, the regulatory solutions chosen by the UK and Germany (within the EU framework) are presented. The different degrees of vertical separation having been used in these countries are then contrasted to data on entry from the previous chapter.

The assessment finds that in electricity stricter regulation is followed by the incumbents' market share loss, but there is no evidence for this in telecommunication, which justifies the different policies for the sectors.

## **Introduction**

It is well-understood that vertical integration can hinder competition when market power exists on one of the production levels concerned. This is because, when there is a dominant firm on one of the levels in the supply chain, this firm can leverage (or maintain) its market power to the competitive level through vertical integration by discriminating against competitors on the competitive level.<sup>100</sup>

Electricity and telecommunications are both network industries. This means that in their supply chain there is a network that is essential to provide services for the consumers. Arguably, it is not economically viable to duplicate these networks, which means that they constitute a natural monopoly.<sup>101</sup> From the argument

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<sup>100</sup> This is why such vertical mergers are normally blocked by competition authorities.

<sup>101</sup> The natural monopolistic nature of the networks - especially the telecommunications network - is debatable. The cable network can compete with the fixed telephone network and also mobile networks compete with each other and to some extent with the fixed networks.

above it follows that in order to facilitate competition integration between the network and the other (potentially competitive) levels of the supply chain should be prevented. As a matter of fact the key idea behind the sector reforms, creating competition, was meant to be achieved by localizing the monopolistic element and keeping it contained.<sup>102</sup> Thereby, competition can emerge on the rest of the levels. The regulatory solutions put in place to contain the monopolistic element are, therefore, of crucial importance from the perspective achieving the aim of the reforms: creating competition in the electricity and telecommunications sectors.

One of the main differences between the electricity and telecommunications reforms is in these regulatory arrangements, which are responsible for the restriction of monopoly: in the electricity sector the monopolistic levels have been strictly separated while in the telecommunications regulation only access regulation has been initiated to tackle leveraging of market power by discriminating against competitors on the access terms.<sup>103</sup>

Although in the electricity sector the regulatory solutions put in place to contain the monopoly are generally stronger than the ones used in the telecommunications sectors, there is no clear indication for competition to be stronger in the electricity sector than in the telecommunications sector. Paradoxically, there seem to be more evidence suggesting the opposite: more competition in the telecommunications sectors than in the electricity sectors.

This chapter aims to answer whether the different regulatory vision in respect of vertical separation in the electricity and telecommunications sector is justified in practice. In answering the question, first the pros and cons of vertical integration

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<sup>102</sup> Or quarantined CF Paul L. Joskow, Roger G. Noll, 'The Bell Doctrine: Applications in Telecommunications, Electricity, and Other Network Industries' (1999) 51 (5) *Stanford Law Review*, 1249, 1250

<sup>103</sup> Damien Geradin, Robert O'Donoghue, 'The concurrent application of competition law and regulation: the case of margin squeeze abuses in the telecommunications sector' (2005) 1 (2) *Journal of Competition Law and Economics*, 355, 370

are described to show how vertical integration may lead to enhanced or reduced efficiencies (depending on several factors). This is taken forward by assessing how vertical integration – when it is combined with market power in one of the levels – eliminates competition in the market where there was no market power previously. Such practice may decrease consumer welfare even if integration otherwise increases the efficiency of the enterprise. This is may be a threat in the sectors concerned because of the network, which constitute a bottleneck.<sup>104</sup>

The theoretic background is followed by the assessment of legal solutions available (vertical separation to different degrees and access regulation) to enable efficiencies while preventing the leveraging of market power. Arguably the better is a solution in preventing the leveraging of market power the weaker it is in enabling for enhanced efficiencies. This part is followed by the description of the EU regulatory tendencies. Although in a sense the relevant EU policy is the starting point, by putting it here we can build on the previous points. In the next parts we compare these different solutions in practice. The paper describes the regulatory developments in the UK and Germany in detail. Assessing the regulations of these countries is informative as that they have generally opted for different solutions (the UK went for stronger separation while Germany opted for weaker solutions in both sectors), therefore they can serve as a good material for comparison.

After describing the different regulatory solutions applied, the next step is the assessment. The paper uses the incumbents' market share as described in Chapter 1 and analyses it in light of the detailed case studies. Prices and consumer satisfaction data are disregarded since they are more remotely connected to vertical integration than market shares. In practice market concentration data is

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<sup>104</sup> Vertical integration between generation and supply, two competitive levels in the electricity sector is a somewhat different issue.

arguably the main indicator<sup>105</sup> regulators and competition authorities rely on when analysing market power and competition on a market.

## **Part 1: The theory behind vertical separation**

Under this section the general theory behind vertical separation is described: what is vertical separation good for, what are the drawbacks and what are the different options about the subject.

### **1.1 The pros and cons of vertical integration**

From a technological perspective most products and services go through different phases before reaching the end-users. Each phase can be described as a production level whose output constitutes an input used by the next level. These levels altogether constitute the value-chain of a product or service.

A single company may be involved in one or more of these production phases. Essentially the company has to decide whether it is more beneficial for it to *produce* the input for itself/keep on processing its output further (depending on the perspective), or just focus on a certain process, and *buy* the needed input/sell their output to another company.<sup>106</sup>

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<sup>105</sup> Besides, other factors relevant for the analysis (entry barriers, buyer power etc.) are not hugely different in the two countries.

<sup>106</sup> Joskow, Noll (1999) 1250-1251

Factors that determine whether the best option for a firm is to trade with another level or integrate with it have been studied for some time therefore the issue is generally well-understood.

### 1.1.1 Pros

Economic theory suggests that vertical integration leads to considerable efficiency gains in sectors where sunk costs are substantial, and where complexity and uncertainty is significant. Thus, in such cases the benefits of vertical integration might outweigh the benefits of vertical separation.<sup>107</sup> Vertical separation also results in smaller firms, which makes it harder for them to access external funding and makes takeovers (horizontal integration) more likely.<sup>108</sup>

Some of the benefits of vertical integration are related to the elimination of certain transaction cost. The key element of the bargaining procedure is to share the surplus achievable through the transaction. In the market a seller will make a deal if the price is above its marginal costs and a buyer will ultimately agree to any price which is lower than her reservation price. Therefore, when the reservation price of the buyer is higher than the cost of the seller a deal can be concluded. However, the price can theoretically be anywhere between the reservation price and the marginal cost of the product. In practice, therefore the parties will bargain to

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<sup>107</sup> Robert W. Crandall, Jeffrey A. Eisenach, Robert E. Litan, 'Vertical Separation of Telecommunications Networks: Evidence from Five Countries' (2010) 62 Federal Communications Law Journal, 496

<sup>108</sup> Machiel Mulder, Victoria Shestalova, Gijsbert Zwart, 'Vertical Separation of the Dutch Energy Distribution Industry: an Economic Assessment of the Political Debate' 2007 (Nov-Dec) Intereconomics, 308

achieve as much surplus for themselves as possible. This bargaining process can be costly both in terms of time and money (transaction costs<sup>109</sup>).

Besides eliminating key financial counter-incentives, integration is likely to result in enhanced cooperation and coordination. Managers of the same firm can be easily incentivised to promote cooperation and coordination within the enterprise. Disputes can also be settled internally, which is likely to be quicker and less costly than formal litigation or even any sort of arbitration.<sup>110</sup>

Working for the same company can create “clan-like” emotions which ultimately promote productivity. Trainings and other means of socialising within the company develops institutional and personal trusted relationships. Information asymmetry exists between people working at the different branches of the integrated company as well, but understanding that they ultimately work for the prosperity of the same enterprise, they are less likely to exploit this information advantage than people working for separate companies.<sup>111</sup>

An integrated firm has better information. Any firm will know its own business better than its business partners’. By merging to another level the firm’s first-hand information is extended as well. More formally, the firm has the right to audit its own branches but it cannot freely do that with its business partner. Besides, as the surplus of the transactions stay within the organisation the branches have less incentive to use their information strategically.<sup>112</sup> Better information leads to better decisions.<sup>113</sup>

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<sup>109</sup> Stephen Davies, Catherine Waddams Price, ‘Does Ownership Unbundling Matter? Evidence from UK Energy Markets’ 2007 (Nov-Dec) *Intereconomics*, 298

<sup>110</sup> *Ibid*

<sup>111</sup> Mahoney (1992) 569

<sup>112</sup> *Ibid* 568-569

<sup>113</sup> Davies, Waddams (2007) 298

From the society's perspective one of the major benefits of integration is that in such cases (i.e. where both of the levels are monopolistic or there is market power) vertical integration prevents double marginalisation.<sup>114</sup> When the production is done by two different companies in two different levels before it gets to the consumer both companies build their own profits in the price of the product, while if it is done by one entity the profit is only added once, and at the end the consumer price may be lower.<sup>115</sup> Therefore, vertical separation and still imperfect competition may ultimately lead to higher costs to consumers than vertical integration.<sup>116</sup> When the production levels are integrated in one company the surplus will stay within one entity and there will be no bargaining. All the relevant costs can be saved.<sup>117</sup>

### **1.1.2 Cons**

Vertical integration has disadvantages (related to efficiency) as well. Generally these may come as enhanced bureaucratic, strategic and production costs.

At the heart of enhanced bureaucratic cost there is the increase of size through vertical integration. As the size of the company increases the governance is getting more complex which requires more staff. While there is a potential of better communications, coordination etc. within the organisation (as compared to trading

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<sup>114</sup> Geradin, O'Donoghue (2005) 370

<sup>115</sup> Cf Massimo Motta, 'Competition policy: theory and practice' (CUP 2004) 308

<sup>116</sup> Justus Haucap, 'The Costs and Benefits of Ownership Unbundling' 2007 (Nov-Dec) *Intereconomics*, 303

<sup>117</sup> Joseph T. Mahoney, 'The choice of organizational form: vertical financial ownership versus other methods of vertical integration' 1992 13:8 *Strategic Management Journal*, 568

partners) this may only materialise at additional costs. Higher organisational complexity can hamper previously well-functioning structures.<sup>118</sup>

Vertical integration may lead to higher production costs. First of all, vertical integration causes a situation that is similar to monopoly. For example the acquired supplier (upstream) company will no longer have to compete with other firms for sales; the whole purpose of the acquisition is that the downstream firm will use the acquired company to produce the necessary inputs. Therefore, just like a monopoly, the acquired business, can enjoy a quiet life not focusing so much on cost-effectiveness. Another issue is efficiency of scale. If efficiency of scale is considerable and the company's demand is limited, than the company will face enhanced costs.<sup>119</sup> Demand fluctuation can cause a similar problem, because when less input is needed for the production downstream, the acquired (upstream) business may have over-capacity which is ultimately inefficient.<sup>120</sup>

After the (vertical) integration the firm is locked in: it has to stick to one supplier. This has multiple implications. While it has been suggested earlier that vertical integration may help to eliminate asymmetric information, there is also an argument that access to alternative information will be lost since connections to other suppliers will be severed. Integrating to another level may also involve the acquisition of assets that ultimately enhance the firm's sunk costs (higher exit barriers). Integration also reduces the firm's strategic flexibility; after the acquisition of another business divestiture can cause administrative and other issues and may lead to a commitment for the business even if it sets back the

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<sup>118</sup> Mahoney (1992) 569

<sup>119</sup> Mahoney (1992) 570

<sup>120</sup> Without vertical integration the downstream firm could just purchase the amount of input necessary from the market.

company and using the services of another company would be more advantageous.<sup>121</sup>

When the industries are integrated, the issues arising out of the separation as an intervention should also be considered. Vertical separation may be a drastic interference with private rights,<sup>122</sup> although, this is rather just an issue when at the time of the separation the sector is in private ownership.<sup>123</sup> Moreover separation in itself will incur some costs.<sup>124</sup> Ultimately, the assessment of the benefits expected from artificial vertical separation should also take into account that rapid technical evolution may change the face of the sectors naturally.<sup>125</sup>

## **1.2 Concerns over competitiveness: the monopolistic element(s) in electricity and telecommunications sectors**

It has been shown that whether integration or trade is more beneficial *for a company* depends on multiple factors. Companies are likely to expand to a related level of the distribution chain when such a move is more beneficial than using another firm's services on that related level.<sup>126</sup>

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<sup>121</sup> Mahoney (1992) 570

<sup>122</sup> For example restrictions on ownership right in case of ownership separation. At the same time, regulation restricts the owner's rights too, to some extent.

<sup>123</sup> Major exceptions are the electricity sector of the U.S., Japan, Spain, and Germany – CF Joskow, Noll (1999) 1297

<sup>124</sup> Davies, Waddams (2007) 298

<sup>125</sup> Michel Kerft, Damien Geradin, 'Controlling market power in telecommunications: antitrust vs. sectorspecific regulation - An Assessment of the United States, New Zealand and Australian Experiences' (1999) 14 (919) Berkeley Technology Law Journal, 919, 1012

<sup>126</sup> Cf Richard Cadman, 'Means not ends: Deterring discrimination through equivalence and functional separation' (2010) 34 Telecommunications Policy, 367, Richard Whish, *Competition Law* (6<sup>th</sup> edn OUP, London 2009) 607-608

But what does this imply for society? Vertical integration may lead to enhanced productive efficiency, but may at the same time lead to market power and therefore less total welfare, so to a less efficient outcome from the society's perspective. This is illustrated in the graph below:

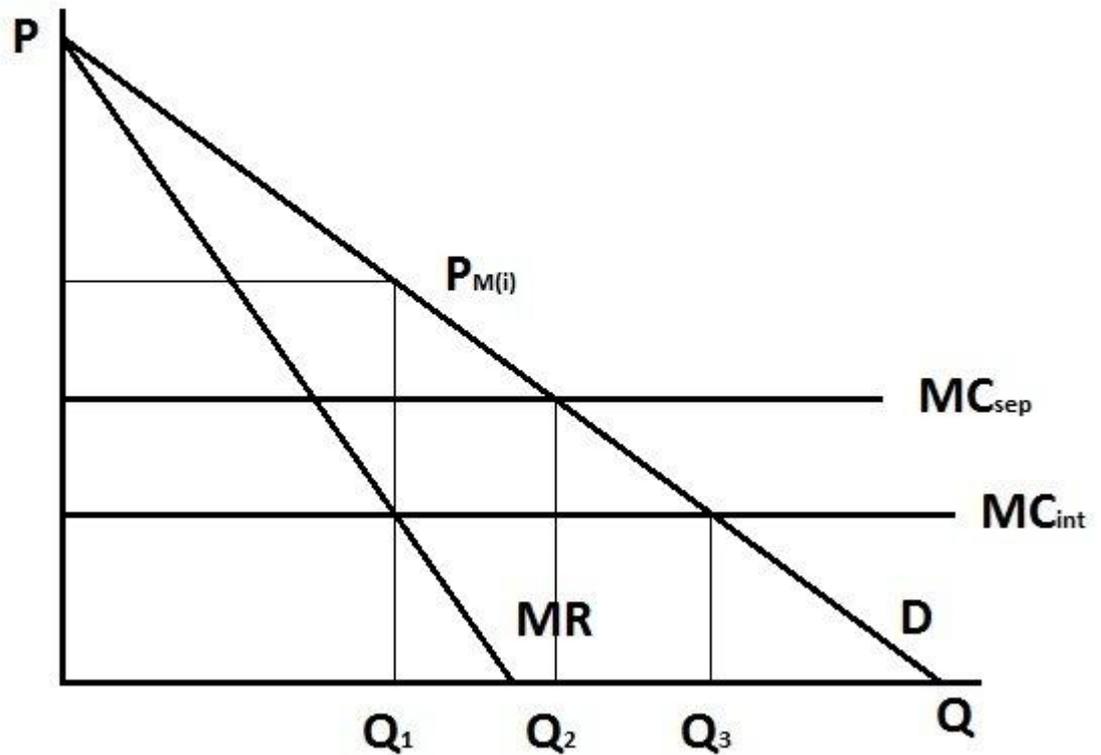


Figure 44 Illustration: competition vs. monopoly

Here we assume that integration leads to lower costs than separation ( $MC_{int} < MC_{sep}$ ).<sup>127</sup> If the company is integrated and there is competition the society will be able to purchase an amount of  $Q_3$  for a price that is equal to  $MC_{int}$ . In the lack of integration due to the lower efficiency the price is going to be somewhat higher ( $=MC_{sep}$ ) and the sold quantity is lower ( $Q_2$ ). The worst case scenario arises out of a lack of competition, when even though the company can produce efficiently, it will

<sup>127</sup> The shape of the cost curves abstracts from the natural monopoly element.

charge a monopoly price which is higher than in both previous cases ( $P_{m(i)} > MC_{sep} > MC_{int}$ ) and the quantity sold ( $Q_1$ ) will also be the lowest ( $Q_3 > Q_2 > Q_1$ ).<sup>128</sup>

In a competitive setup the firm is forced to look for the most efficient solutions. Higher efficiency allows the firm to compete with its rivals by offering better deals to the consumers. Ultimately, therefore, in a competitive market gains arising out of enhanced efficiency will be passed-on to the consumers. Accordingly, vertical integration in itself may not be harmful for competition or consumers,<sup>129</sup> but (when leading to higher efficiency) may rather benefit them.

Vertical integration is rather just harmful for consumers and is unwanted from a competition point of view, when it is combined with some sort of horizontal integration as well, which results in market power on one of the levels,<sup>130</sup> or when market power is already existent in one of the levels concerned. Multi-product firms often cross subsidise between their businesses.<sup>131</sup> From a competition perspective this is only a concern when it enables exclusionary practices.<sup>132</sup> This is reflected by competition law, which is generally less strict when it comes to vertical integration than horizontal integration.<sup>133</sup>

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<sup>128</sup> CF Joskow, Noll (1999) 1250-1252

<sup>129</sup> Niamh Dunne, 'Margin squeeze: theory, practice, policy – part 1' (2012) 33(1) European Competition Law Review, 29, 29

<sup>130</sup> Geradin, O'Donoghue (2005) 358

<sup>131</sup> *Ibid* 368

<sup>132</sup> Damien Geradin, 'Regulatory issues raised by network convergence: the case of multi-utilities' (2001) 2 Journal of Network Industries, 113, 120

<sup>133</sup> According to Whish, "[v]ertical agreements are likely to have an effect on competition only where the firm imposing a vertical restraint already has market power". - Whish (2009) 613

In the industries concerned, however, this is exactly the case. The Electricity industry can be separated into four different levels:<sup>134</sup> generation, transmission, distribution and supply.<sup>135</sup> Electricity is produced by generators, transmitted via high voltage wires over longer distance then it is distributed to lower voltage wires and gets supplied to the consumers.<sup>136</sup> Electricity cannot be stored,<sup>137</sup> therefore the system should be balanced to make sure that the quantity produced and consumed is constantly equal,<sup>138</sup> this creates another function that has to be carried out: balancing of the demand and supply. In the electricity sector the „bottlenecks“ are the transmission and distribution networks.<sup>139</sup> Their duplication is not viable, or at least has not been carried out yet. These monopolistic levels are in between the two competitive levels: generation and supply.

Fixed telecommunications services work essentially as the following. A home device (telephone, modem etc.) sends and receives electric signals. These signals are transported by a wire to the first switch (in the case of the UK so called Digital Local Exchange). The network between the premises and the first switch is called the

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<sup>134</sup> There is another function, which is somewhat separate, but very important: system balancing. As electricity cannot be stored and the production and the consumption should be constantly equal some entity is needed to arrange this balance.

<sup>135</sup> Joskow, Noll (1999) 1291-1292, Richard Pond, 'Liberalisation, privatisation and regulation in the UK electricity sector' Working Lives Research Institute, LMU- Country report on liberalisation and privatisation processes and forms of regulation (2006) 1

<sup>136</sup> Gillian Simmonds, 'Regulation of the UK Electricity Industry' (2002) CRI Industry Brief, 15

<sup>137</sup> On further specialties: Richard Meade, 'Electricity Investment and Security of Supply in Liberalized Electricity Systems' Available at: <http://ssrn.com/abstract=831585> accessed 25/08/2010 11, Joseph P. Tomain, 'The Past and the Future of Electricity Regulation' (2002) 32 Environmental Law 438, Peter D Cameron, 'Reforming Energy Markets: a Review Article' (2000) 18 Journal of Energy & Natural Resources Law 358

<sup>138</sup> CF: Ofgem, 'Securing Britain's electricity supply' available at: [http://news.bbc.co.uk/1/hi/shared/bsp/hi/pdfs/03\\_03\\_04securityofsupply\\_Dec.pdf](http://news.bbc.co.uk/1/hi/shared/bsp/hi/pdfs/03_03_04securityofsupply_Dec.pdf) 1 accessed 30/01/2012 1

<sup>139</sup> Vickers (1995) 1

local loop, which arguably still cannot be duplicated in an economically viable way, and therefore constitutes the bottleneck of the sector, although the cable networks can offer an alternative.<sup>140</sup> In practice there are multiple levels of switches in the network and more variations of how the signals can be transported to the receiver, whose device (again, telephone, modem etc.) interprets the electric signal.<sup>141</sup>

Network utilities in most European countries used to be organized as one vertically integrated monopoly.<sup>142</sup> It is interesting to note that in the earlier on, integrated firms' ability to cross subsidize was seen as a plus, since it enabled the firms to pursue social goals, such as provide affordable services to customers in rural areas where providing the service would perhaps not been profitable (or would simply be very expensive) on the cost of other customers.<sup>143</sup> Vertical integration was combined with market power, because of the link between the network (the monopoly element) and the incumbent present in the competitive level(s) as well. The reason for this was that an essential part of these industries is the network, which cannot be duplicated in an economically viable way and, therefore, constitutes natural monopoly.<sup>144</sup> Vertical integration was considered to be

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<sup>140</sup> Pierre Larouche, 'A closer look at some assumptions underlying EC regulation of electronic communications' (2002) 3 *Journal of Network Industries*, 129, 142-143 vs. 138

<sup>141</sup> See in detail: Andrew Sharpe, 'Communications Technologies, Services, and Markets' in Ian Walden ed. *Telecommunications Law and Regulation* (3rd edn. OUP 2009) 38-43

<sup>142</sup> Graeme Guthrie, 'Regulating Infrastructure: The Impact on Risk and Investment' (2006) 44 (4) *Journal of Economic Literature*, 925, 958

<sup>143</sup> Michel Kerft, Damien Geradin, 'Controlling market power in telecommunications: antitrust vs. sectorspecific regulation - An Assessment of the United States, New Zealand and Australian Experiences' (1999) 14 (919) *Berkeley Technology Law Journal*, 919, 923

<sup>144</sup> Joskow, Noll (1999) 1251, Ole Jess Olsen, Anders Henten, Morten Falch, 'Functional separation in telecommunications: A comparative analysis of infrastructural areas' (2008) Conference paper 17th Biennial ITS Conference 2-3

beneficial because of scale and scope economies. Some form of regulation<sup>145</sup> was put in place to prevent the monopoly from charging monopoly prices and thereby causing deadweight welfare loss for the society.<sup>146</sup> This view was heavily criticised in the '80s for being inefficient.<sup>147</sup>

The idea behind the reform is that, although the network is a true natural monopoly,<sup>148</sup> the services attached to it can be provided by more than one firms,<sup>149</sup> hence competition can emerge, with all its potentially beneficial effects.<sup>150</sup> This mixed system comprising of regulated monopolistic level(s) and connected competitive levels have been anticipated to lead to higher consumer welfare than an integrated regulated monopoly.<sup>151</sup>

Simply liberalising the sectors did not seem to be a viable option for achieving competition<sup>152</sup>, as the incumbent would most likely restrict access to this network,<sup>153</sup> which is still more or less a natural monopoly<sup>154</sup> and make the entry of

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<sup>145</sup> The form primarily depends on the ownership of the monopoly. In the case of a public monopoly regulation is implicit: the government can give direct orders to the management. If the monopoly is in private hands it has to be regulated explicitly (by a ministry or a regulator).

<sup>146</sup> CF Kerft, Geradin (1999) 924

<sup>147</sup> David Parker, 'Regulation of privatised public utilities in the UK: performance and governance' (1999) 12 *International Journal of Public Sector Management* 213, 213

<sup>148</sup> Although the situation is different in telecommunications where cable network can be an alternative.

<sup>149</sup> Guthrie (2006) 958

<sup>150</sup> Joskow, Noll (1999) 1251

<sup>151</sup> CF Joskow, Noll (1999) 1253

<sup>152</sup> Damien Geradin, 'Institutional aspects of EU regulatory reforms in the telecommunications sector: an analysis of the role of national regulatory authorities' (2000) 1 *Journal of Network Industries*, 5, 8 Geradin (2001) 113-114

<sup>153</sup> Vickers (1995) 5

new firms impossible.<sup>155</sup> Squeezing the competitors' margins and thereby making them unprofitable<sup>156</sup> is a major threat since it only requires vertical integration and dominance on the level which competitors need as an input<sup>157</sup>, both of which are given in the sectors concerned. At the same time tackling these practices is difficult because it essentially requires the establishment of a fair price (based on fair costs).<sup>158</sup>

As part of reforming ex-monopoly network industries, some sort of legal intervention<sup>159</sup> (regulation<sup>160</sup>) was necessary to control monopoly power<sup>161</sup> and to enable competition and enhance its development.<sup>162</sup> Providing access is still a key issue and will remain so as long as the network will constitute a bottleneck in the supply chain.

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<sup>154</sup> More or less: because it is more straightforward in the case of electricity, but somewhat contestable with telecommunications.

<sup>155</sup> Guthrie (2006) 959

<sup>156</sup> Geradin, O'Donoghue (2005) 357-358

<sup>157</sup> *Ibid* 358

<sup>158</sup> *Ibid* 359

<sup>159</sup> Geradin (2000) 5-6

<sup>160</sup> Regulation in general has many other aims, if fact regulation might impede competition, here, however the issue is access regulation.

<sup>161</sup> Geradin (2000) 8

<sup>162</sup> Thomas von Danwitz, 'Regulation and Liberalization of the European Electricity Market – a German view' (2006) 27 Energy Law Journal 423, 423, Geradin, O'Donoghue (2005) 360

### 1.3 Regulatory solutions: regulated access vs. vertical separation

There are two separate problems when a vertically integrated firm provides access to a monopolistic market: 1.) charging monopoly price for access and 2.) discriminating between competitors on the competitive level.

There are two complementary tools available to tackle the problem<sup>163</sup>:

- **Vertical separation:** by separating the monopolistic part of the industry from the incumbent, the new individual firm that deals with the network has no incentive<sup>164</sup> to treat competitive firms requests for access differently<sup>165</sup> i.e. to favour the incumbent.<sup>166</sup> This means that anti-competitive discrimination is no longer an issue for the regulation (although even an unbundled network operator will have a general incentive for price discrimination, just like every other company with market power<sup>167</sup>). Prices, however, should be still regulated, as otherwise the network operator could (and probably would) charge monopoly prices.<sup>168</sup>

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<sup>163</sup> Olsen et. al. (2008) 3

<sup>164</sup> Geradin, O'Donoghue (2005) 370

<sup>165</sup> Lidia Ceriani, Raffaele Doronzo, Massimo Florio, 'Privatization, Unbundling and Liberalization of Network Industries: a Discussion of the Dominant Policy Paradigm in the EU' (2009) UNIMI Working Paper n. 2009-09 13

<sup>166</sup> cf Fabian Kirsch, Christian Von Hirschhausen, 'Regulation of NGN: Structural Separation, Access Regulation, or No Regulation at All?' (2008) 69 Communications & Strategies 63, 71

<sup>167</sup> Haucap (2007) 303

<sup>168</sup> cf OECD Working Party on Telecommunication and Information Services Policies, 'The Benefits and Costs of Structural Separation of the Local Loop' [2003] 26

- **Access regulation:** regulating the price and other terms of access can also ensure that other firms – the competitors of the incumbent – have the same possibility to use the network as the incumbent, without discrimination and without paying supra-competitive prices. As far as the access discrimination issue is concerned,<sup>169</sup> in theory<sup>170</sup> vertical separation and access regulation are alternatives of each other. The big difference is that, while vertical separation eliminates the incentives of the company managing the monopolistic assets to discriminate against companies who seek access, access regulation only prevents the monopolistic company to act according to its natural incentives.<sup>171</sup>

It has been shown that vertical integration may lead to enhanced efficiency on the company's level, but in the cases concerned (due to the monopolistic element) this integration would likely to go against fair access to the network, which is a crucial element. By ordering vertical separation these efficiencies can be lost.<sup>172</sup> There might be however solutions for providing fair access without losing the efficiencies arising out of vertical integration.<sup>173</sup> Separation can be carried out to different extents. This is important, because less complete version may still allow (to some

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<sup>169</sup> Vertical separation can only eliminate discriminatory incentives, but will not provide a solution for excessive prices. In that respect they are not alternatives: vertical separation will have to go hand-in-hand with price regulation to tackle monopolistic prices and deadweight welfare loss to society.

<sup>170</sup> Although it can be argued that in practice the regulator will hardly do a perfect job when deciding on the fair terms of access and when monitoring the practice, considering that the regulatory authority is at an information disadvantage compared to the monopoly it regulates, which has all the incentives to supply information that leads the authority to a decision that favours the monopoly.

<sup>171</sup> CF Geradin, O'Donoghue (2005) 369

<sup>172</sup> *Ibid* 370

<sup>173</sup> Guthrie (2006) 959

extent) for efficiencies that arise out of vertical integration, but at the same time, arguably, they are less effective in providing fair access.

There are many ways of categorising separation and ranking them as stronger or weaker in terms of the fullness of separation. It is generally accepted that ownership unbundling is the fullest form of separation while accounting separation is the weakest, but studies use different categories.

Xavier and Ypsilanti<sup>174</sup> analyse vertical separation in the telecommunications sector. They set up the following 6 categories:

- Accounting, functional and corporate separation.
- Separation into regional operators
- Separation of local from long-distance services
- Separation of local and mobile services
- Separation of local and broadband/advanced services
- Separation of an incumbent into smaller, vertically integrated, carriers.<sup>175</sup>

Cave<sup>176</sup> – analysing also the telecommunications regulation – establishes 6 categories, between accounting separation and ownership unbundling, so in total he differentiates between 8 categories:

- (Ownership separation)
- Legal separation (separate legal entities under the same ownership)
- Business separation with separate governance arrangements
- Business separation with localised incentives

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<sup>174</sup> Patrick Xavier, Dimitri Ypsilanti, 'Is the case for structural separation of the local loop persuasive?' (2004) 6 (2) info, 74, 92

<sup>175</sup> *Ibid* 76

<sup>176</sup> Martin Cave, 'Six Degrees of Separation : Operational Separation as a Remedy in European Telecommunications Regulation' (2006) 64 (4) Communications & Strategies, 89

- Business separation
- Virtual separation
- Creation of a wholesale division
- (Accounting separation).<sup>177</sup>

In practice the picture is even more varied. The legislation that defines the exact measures in terms of unbundling and access pricing are much more detailed and there can be many differences in those details. Therefore, in theory it is possible to make a distinction among even more types (levels) of vertical separation and access regulation.<sup>178</sup>

In the EU's legal terminology there are three different forms of vertical unbundling, listed here from the most to the least strict solutions:

- Ownership unbundling: That is the strictest and most complete form of separating the monopolistic part, such unbundling means that the incumbent and the firm that takes care of the network are two totally separate entities. This ensures that there are no incentives to discriminate between the competitive firms.
- Legal unbundling: This means that the network is managed by a legally different firm, however this firm can be owned by the incumbent or by other related entity.<sup>179</sup> The owners' interest is still maximising the profits achievable altogether by the firms they own on the different levels. This type of separation is less strict than ownership unbundling, but still stricter than accounting separation. The potential advantage of legal unbundling over ownership unbundling is

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<sup>177</sup> Cave (2006) 94

<sup>178</sup> cf *Ibid* 1

<sup>179</sup> Steve Thomas, 'Unbundling of electricity transmission networks: Analysis of the European Commission's position' [2007] PRISU 4

that it may still allow for the realisation of some synergies that would be lost under ownership unbundling, although some argues that legal unbundling will eliminate synergies that arise out of issues being dealt with *within one entity* as well.<sup>180</sup>

- Accounting separation: Such requirement means that the network may be operated by a firm that is also active on a vertically connected market,<sup>181</sup> but separate accounts have to be maintained of the two types of activities (competitive and monopolistic). The reason for this, is that it leads to more transparency within the integrated unit, the regulator has better information, so it can – at least in theory – prevents cross-subsidization.<sup>182</sup>

In this paper, these three categories are used because these can be applied well to electricity as well as the telecommunications sector, allowing for more straightforward comparisons.

This paper is primarily concerned with the different types of vertical separation (as mentioned above). However, as it is heavily connected to the issue of vertical separation, it has to be noted that there are also two different types of access regulation can be found in the EU's legal terminology:

1. Negotiated Third Party Access (nTPA): This is probably the most flexible type, where electricity industry participants can conclude deals by themselves. There are no restrictions on transmission charges, they are only subject to general competition law, in other words there is no ex ante regulation only ex post intervention on the basis of competition law is possible.

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<sup>180</sup> Mulder et. al. (2007) 310

<sup>181</sup> So essentially, here the company remains integrated.

<sup>182</sup> Olsen et. al. (2008) 2-5

2. Regulated Third Party Access (rTPA): Here the terms and tariffs of accessing the network are fixed ex ante, and so eligible customers can be aware of the charges before concluding a deal. It is definitely a stronger measure, and it turned out to be more efficient as well in terms of facilitating access.

It is worth noting that competition law can also be a tool to ensure access,<sup>183</sup> especially through the essential facilities doctrine.<sup>184</sup> However, competition law is an ex-post type of intervention which means that in each case a complete procedure has to be carried out, before (if the case has been successful) the monopolistic company is obliged to provide access. Of course, this is rather only helpful when such type of abuse of dominance occurs only occasionally. Considering that in the previously monopoly network industries problems with getting access was far from occasional, and therefore ex-ante regulation – which obliges the monopolistic company to provide access by pre-defined terms in advance – is much more effective in such cases.<sup>185</sup> Sector regulation normally also provides the possibility of imposing duties in order to facilitate access that are not possible under the “essential facilities” doctrine of competition law.<sup>186</sup>

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<sup>183</sup> Geradin, O’Donoghue (2005) 360

<sup>184</sup> A notion primarily defined by case law, *CF Commercial Solvents v. Commission* [1974] ECR 223, [1974] 1 CMLR, *Commission Decision 1994/19* relating to a proceeding pursuant to Art. 86 of the EC Treaty (*IV/34.689-Sea Containers v Stena Sealink*) (interim measures) [1994] OJ L15/8., *Oscar Bronner GmbH&Co KG v Mediaprint Zeitungs- und Zeitschriftenverlag GmbH & Co KG* [1998] E.C.R. I-7791

<sup>185</sup> Cf Ian Walden, ‘Access and Interconnection’ in Ian Walden ed. *Telecommunications Law and Regulation* (3rd edn. OUP 2009) 400

<sup>186</sup> Geradin, O’Donoghue (2005) 362

## 1.4 Conclusion to Part 1

From the arguments above it is clear that in theory vertical separation can be used to provide better access. However vertical separation has its downsides as well, which cannot be ignored. The discussion of the pros and cons of vertical integration makes it clear that a rule against vertical integration may lead to loss of efficiency.

The different degrees of separation provide intermediate solutions facilitating access but saving some of the efficiencies arising out of integration. There are costs and benefits to all of the above-mentioned regulatory options. Having understood the importance of containing the monopolistic element, separation might look much more attractive than access regulation. After all, it is clear that from the perspective of containing the monopolistic element(s), vertical separation is a stronger solution than access regulation, because it eliminates the monopoly's incentive to try to leverage its monopoly power to the competitive level. When vertical separation is required by law, the monopoly cannot be involved in operations on those levels and therefore cannot get profit from those levels. This eliminates the incentives for interfering with competition on the competitive levels.<sup>187</sup>

## Part 2: Vertical separation in practice

This part concerns the practical effects of vertical separation. First, the part looks at the EU framework and then the actual solutions adopted in different Member States within this framework. Secondly, the market developments that followed the adoption of these solutions are described. Lastly, the two is contrasted to see what practical effects can be attributed to the regulations.

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<sup>187</sup> Haucap (2007) 302

## 2.1 EU regulatory choices

Having discussed the regulatory options and their pros and cons, the next part's primary aim is to describe the regulatory solutions chosen by the EU to ensure fair access in electricity and telecommunications.

Besides the aim of describing the adequateness of the policy in detail, the EU regulation is presented as it has key importance from the German regulation's perspective, and it also sets requirements for the UK regulation which, however, generally preceded it.

### 2.1.1 The Electricity reforms

At the beginning of the EU liberalisation (1990-1996) all the different industrial set-ups that existed in Europe had to be taken into account.<sup>188</sup>

The political attitudes were also very different, so reaching a common point in the EU was a quite difficult task.<sup>189</sup>

The first real breakthrough was signalled by Directive 96/92/EC of the European Parliament and of the Council of 19 December 1996 concerning common rules for the internal market in electricity. This directive was the first move towards a uniform electricity market. The directive opened the markets at least partially: the biggest consumers now had the right to choose their suppliers. At the same time, the Member States were allowed to open the market for smaller consumers as well. The only obligation was that by 2003, 35% of the total consumption should be freed.<sup>190</sup>

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<sup>188</sup> Von Danwitz (2006) 432

<sup>189</sup> F. Trillas. "Electricity and Telecommunication Reforms in the EU: Insights from the Economics of Federalism." (2010) IESE Working Paper WP-861. 12

<sup>190</sup> Von Danwitz (2006) 435

EU law did not require any horizontal unbundling, which was an essential part of the UK reform process at the generation level.<sup>191</sup>

In terms of vertical separation - because of the strong opposition towards unbundling by some Member States - the Directive of 1996 only prescribed that:

“(i)ntegrated electricity undertakings shall, in their internal accounting, keep separate accounts for their generation, transmission and distribution activities, and, where appropriate, consolidated accounts for other, non-electricity activities, as they would be required to do if the activities in question were carried out by separate undertakings, with a view to avoiding discrimination, cross-subsidization and distortion of competition”.<sup>192</sup>

The Directive contained three basic options to arrange access to the monopolistic levels namely to the transmission and distribution networks:

1. Negotiated access (nTPA)
2. Regulated access (rTPA)<sup>193</sup>
3. Single buyer system<sup>194</sup>

The Directive was quite flexible in general, and on the issue of access as well which could result in weak solutions when it came to the implementation. This flexibility

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<sup>191</sup> Tooraj Jamasb, Michael Pollitt, 'Electricity Market Reform in the European Union: Review of Progress toward Liberalization & Integration' (2005) 003 WP CEEPR 12

<sup>192</sup> Art. 14. 3.

<sup>193</sup> Jamasb, Pollitt (2005) 4

<sup>194</sup> This means that a single purchaser of electricity is assigned to a certain territory. This entity is responsible for running the transmission system and/or purchases all the electricity within its territory in a centralised way. Such option was especially created to favour the French system. - Von Danwitz (2006) 437

was the result of the compromises that were necessary<sup>195</sup> to enact such a regulation.<sup>196</sup>

The First Directive (1996) was rather just the primary step necessary for creating a united and competitive electricity market, but was far from an adequate tool to achieve this goal. The Second Directive enacted in 2003 went further. The most important advance from our perspective was achieved by the second directive concerning unbundling and access regulation.

Management unbundling and accounting separation was no longer sufficient, the minimum level of unbundling was set higher. According to the Article 10:

“Where the transmission system operator is part of a vertically integrated undertaking, it shall be independent at least in terms of its legal form, organisation and decision making from other activities not relating to transmission. These rules shall not create an obligation to separate the ownership of assets of the transmission system”

This concerns only Transmission System operators, but Article 15. 1 prescribes the same obligations (basically word-for-word) for distribution system operators.

Essentially, the second directive required legal unbundling of the monopolistic facilities, which meant that the transmission and distribution network operators should become separate legal entities. Ownership separation was still not required, although such solution was in compliance with the Directive.

Also, the rules on accessing the network became much stricter.<sup>197</sup> The previously enjoyed wide discretion of member states to choose between several options had

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<sup>195</sup> CF Trillas (2010) 12

<sup>196</sup> Von Danwitz (2006) 437-438

<sup>197</sup> *Ibid* 439-440

been restricted to compulsory regulated access.<sup>198</sup> Article 20 contained the rules on access. Member States had to create a “system of third party access to the transmission and distribution systems based on published tariffs, applicable to all eligible customers and applied objectively and without discrimination between system users”. According to Article 23 of the Directive Member States had to set up an independent regulatory authority, who was responsible (among others) for the enforcement of the access regulation. The regulator had to approve at least the method of calculating the access tariffs.

The latest electricity directive (Directive 2009/72/EC) establishes that the previous unbundling regime was insufficient and prescribes stricter unbundling for transmission system operators. Ownership separation is regarded as the best solution, but two alternative options (the independent system operator and the independent transmission operator) are still available for integrated electricity companies (but the ones that carried out ownership separation already may not go “back” and chose either of these alternative options).

Under the new rules unbundling of the distribution networks remained essentially unchanged.<sup>199</sup>

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<sup>198</sup> Christian Growitsch, Thomas Wein ‘Negotiated Third Party Access—An Industrial Organisation Perspective’ (2005) 20 *European Journal of Law and Economics*, 165

<sup>199</sup> CF Commission Staff Working Paper ‘Interpretative note on Directive 2009/72/EC Concerning common rules for the internal market in electricity and Directive 2009/73/EC Concerning common rules for the internal market in natural gas – The unbundling regime’ available at: [http://ec.europa.eu/energy/gas\\_electricity/interpretative\\_notes/doc/implementation\\_notes/2010\\_01\\_21\\_the\\_unbundling\\_regime.pdf](http://ec.europa.eu/energy/gas_electricity/interpretative_notes/doc/implementation_notes/2010_01_21_the_unbundling_regime.pdf) accessed: 15/06/2014

## 2.1.2 The Telecommunications Reforms

The first phase of the EU telecommunications reform dates back to 1984. However, at this time, the EU legislation focused solely on the technological issues, such as creating common standards, specifications and promoting compatibility that way.<sup>200</sup>

In the next phase, which started off in 1987, the key aim became the full liberalisation of the telecommunications sector in all Member States of the EU. This aim was reached gradually: in 1988 only exclusive rights in connection with the terminal equipments had been abolished by the Equipment Directive<sup>201</sup>. This directive also prescribed the establishment of a regulator who ensures the proper application of the rules of the directive.<sup>202</sup> The Commission used its powers defined by Article 86(3) of the EC Treaty (currently Article 106(3) of the Treaty on the Functioning of the European Union), according to which: “[t]he Commission shall ensure the application of the provisions of this Article and shall, where necessary, address appropriate directives or decisions to Member States.”<sup>203</sup> Therefore, the legal basis of the liberalisation was essentially provided by competition law. This practice was far from being an ordinarily applied method and was not welcomed by all Member States. In fact directives established by the Commission on this basis

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<sup>200</sup> Ian Walden, ‘European Union Communications Law’ in Ian Walden ed. *Telecommunications Law and Regulation* (3rd edn. OUP 2009)185

<sup>201</sup> Directive 88/301/EEC on competition in the markets in telecommunications terminal equipment

<sup>202</sup> Ibid art. 6 – The regulator should have been independent of the industry, however there was nothing about independence of the Government, while the incumbent in a lot of cases was owned publicly, and therefore the Government shared its incentives. This problem has not been solved until 1997, when Directive 97/51/EC art. 1 (6) added: “*Member States that retain ownership or a significant degree of control of organizations providing telecommunications networks and/or services shall ensure effective structural separation of the regulatory function from activities associated with ownership or control*”

<sup>203</sup> Currently Article 106(3) of the TFEU

were initially challenged in front of the European Court of Justice who, however, considered this practice legitimate.<sup>204</sup>

In 1990, the exclusive rights about providing public telecommunications services had been abolished, except for telephony. The concept of the Open Network Provision was also introduced in order to provide “open and efficient access”, initially only to the networks and to reserved services.<sup>205</sup> Later on, the Open Network Provision was expanded to other fields as well.<sup>206</sup>

Further developments led to the 1998 package, which carried out the full liberalisation of the telecommunications sector in the EU. The main task of the 1998 package was to handle the transition of the sector from a monopolistic setup to a competitive one. The connections with the EU competition law in the future were already seen as inevitable and, therefore, the package was supported by guidelines on the application of competition law in the telecommunications sector.<sup>207</sup> Also a “Notice on the application of the competition rules to access agreements in the telecommunications sector” was published, which was based on the previously mentioned Guidelines. This notice was aimed especially at the application of competition law on access issues in the telecommunication sector.

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<sup>204</sup> Walden, ‘European Union Communications Law’ (2009) 173

<sup>205</sup> Council Directive 90/387 on the establishment of the internal market for telecommunications services through the implementation of open network provision

<sup>206</sup> Walden, ‘European Union Communications Law’ (2009) 187

<sup>207</sup> available at: [http://ec.europa.eu/information\\_society/policy/ecom/doc/history/index\\_en.htm](http://ec.europa.eu/information_society/policy/ecom/doc/history/index_en.htm) accessed 13/01/2012

The Interconnection Directive<sup>208</sup> concerned access on the EU level for the first time, prescribing accounting separation.<sup>209</sup> Before this directive Member States were free to deal with the problem in any way they wanted to.<sup>210</sup>

The Directive contained two systems for providing access for two types of providers:

1. All the reasonable requests for access made should have been met by the providers listed in Annex 1 of the Directive and have Significant Market Power.<sup>211</sup>
2. Right of negotiating on access was conferred to the entities listed in Annex 2 of the Directive, which also meant an obligation of negotiating in case they had been approached to provide access by another Annex 2 firm.<sup>212</sup>

As part of the 1998 package Significant Market Power (SMP) regulation – a concept modelled after the concept of dominance in competition law – was introduced, according to which companies having a market share of 25% or more were presumed to be organizations with significant market power and might, therefore, be subjected to special ex-ante regulation.

At the European Council of Lisbon, on the 23 and 24 March 2000, the aim of cheaper and faster internet service throughout Europe has been articulated (as part

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<sup>208</sup> Directive 97/33/EC on interconnection in Telecommunications with regard to ensuring universal service and interoperability through application of the principles of Open Network Provision (ONP)

<sup>209</sup> Geradin (2000) 13

<sup>210</sup> Walden, 'Access and Interconnection' (2009) 400

<sup>211</sup> Directive 97/33/EC on interconnection in Telecommunications with regard to ensuring universal service and interoperability through application of the principles of Open Network Provision (ONP) Article 4. 2

<sup>212</sup> *Ibid* Article 4. 1

of the eEurope Action Plan), and local loop unbundling was projected to be the way leading towards the realisation of that aim.<sup>213</sup>

The legislation became stronger and stronger: later on that year a Recommendation<sup>214</sup> was issued on local loop unbundling recommending “appropriate legal and regulatory measures be adopted to mandate, by 31 December 2000, full unbundled access to the copper local loop of notified operators under transparent, fair, and non-discriminatory conditions”<sup>215</sup>

The Recommendation was followed by a Regulation,<sup>216</sup> which required that operators designated by the national regulatory authorities (so called “Notified Operators”<sup>217</sup>) “meet reasonable requests from beneficiaries for unbundled access to their local loops and related facilities, under transparent, fair and non-discriminatory conditions”.<sup>218</sup>

The 1998 package was changed in 2003. At the end of the transition period, there was a need for a new framework which regulated all the different means of electronic communications. The package was designed to deal with the challenges

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<sup>213</sup> Cf [http://europa.eu/legislation\\_summaries/information\\_society/strategies/l24221\\_en.htm](http://europa.eu/legislation_summaries/information_society/strategies/l24221_en.htm) accessed 23/01/2012

<sup>214</sup> Commission Recommendation 2000/417/EC on unbundled access to the local loop: enabling the competitive provision of a full range of electronic communications services including broadband multimedia and high-speed Internet

<sup>215</sup> *Ibid* Art 1. 2

<sup>216</sup> Regulation 2887/2000 on unbundled access to the local loop

<sup>217</sup> According to the definition of the Regulation: “‘notified operator’ means operators of fixed public telephone

networks that have been designated by their national regulatory authority as having significant market power in the provision of fixed public telephone networks and services under Annex I, Part 1, of Directive 97/33/EC

or Directive 98/10/EC” - Regulation 2887/2000 on unbundled access to the local loop Art.2 (a)

<sup>218</sup> *Ibid* Art. 3. 2

of the constantly and unpredictably changing environment, the dynamical growth of the markets and the numerous new entrants and the interactions between the markets.<sup>219</sup>

The New Regulatory Framework (2003 package)<sup>220</sup> consisted of a Framework directive that gave the background and four special directives, out of which one dealt with access.

Within the New Regulatory Framework, the use of self-regulation has not been accepted “*expressis verbis*” while, for example in the UK, this is considered to be an inevitable part of the deregulation process.<sup>221</sup> Under this Directive, all public electronic telecommunications network operators had the duty to negotiate access with each other, not just the ones mentioned in Appendix II of the 1997 Interconnection Directive.<sup>222</sup> There were still special rules for operators having SMP but the rules on who can be assigned as such, changed considerably. The “SMP” concept was largely adjusted to the dominant position concept of competition law, thereby abolishing the former conflict between them, which has been criticised by Germany.

The most recent update of the EU telecommunications regulations has been carried out in 2009. The regulation still relies primarily on access regulation. In terms of

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<sup>219</sup> CF [http://ec.europa.eu/information\\_society/policy/ecomm/doc/history/index\\_en.htm](http://ec.europa.eu/information_society/policy/ecomm/doc/history/index_en.htm) accessed 12/01/2012

<sup>220</sup> The Framework consisted of five directives: Directive 2002/21/EC on a common regulatory framework for electronic communications networks and services (Framework Directive) Directive 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities (Access Directive) Directive 2002/20/EC on the authorisation of electronic communications networks and services (Authorisation Directive) 2002/22/EC on universal service and users' rights relating to electronic communications networks and services (Universal Service Directive) 2002/58/EC concerning the processing of personal data and the protection of privacy in the electronic communications sector (Directive on privacy and electronic communications)

<sup>221</sup> Walden, ‘European Union Communications Law’ (2009) 175

<sup>222</sup> Directive 2002/19 on access to, and interconnection of, electronic communications networks and associated facilities (Access Directive) Art. 4. 1

vertical separation, the preamble of the 2009 Directive<sup>223</sup> still only mentions that “[i]n exceptional cases, functional separation may be justified as a remedy where there has been persistent failure to achieve effective non-discrimination” (para 61).

### **2.1.3 In summary:**

The EU took a step-by-step approach towards structural changes, but there is clear preference for stronger separation when it comes to electricity, especially between the generation and the transmission levels.

One of the main reasons for this is that an integrated company have no incentive in developing the network in a way that promotes competition, for example by creating more interconnections – which would enhance competition and would at the same time promote market unification in the EU.<sup>224</sup> At the same time synergies are likely to be less important when it comes to the common ownership of generation and transmission than distribution and supply. In contrast the telecommunications primarily relies on access regulation and vertical separation is rather just reserved for exceptional cases.

There is an implicit assumption that due to differences between the sectors, the importance of vertical separation is different.

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<sup>223</sup> 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

<sup>224</sup> Haucap (2007) 302

## 2.2 Case studies of the Member States concerned

The EU legislation concerned offers a certain flexibility in all cases: Member States can choose between less or more strict solutions, when implementing the directives. In order to be able to compare the effects arising out of less and more strict solutions the case studies should represent the two ends of this spectrum. Accordingly in the following, the paper assesses two countries; the UK and Germany, because as it will be shown, Germany tends to opt for less while the UK has generally implemented more strict solutions.

### 2.2.1 The electricity sector

#### 2.2.1.1 The UK

In the UK before the reform, the Central Electricity Generating Board was responsible for all the generation and transmission functions<sup>225</sup>, while twelve Area Boards were set up to deal with distribution and supply.<sup>226</sup> Although there was connection with the Scottish and Irish systems, the English-Welsh system de facto operated on its own.<sup>227</sup>

In the UK the reforms started with *de jure* liberalisation then the industry was restructured and finally privatised.<sup>228</sup>

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<sup>225</sup> CF Pond (2006) 4

<sup>226</sup> Blanche Sas, 'Regulation and the Privatised Electricity Supply Industry' (1990) 53 *The Modern Law Review* 485, 485 On the development after WW2 see Simmonds (2002) 1

<sup>227</sup> Pond (2006) 1

<sup>228</sup> Pond (2006) 3

Liberalisation started in 1983, when the Energy Act enabled new generators to enter the market by significantly removing the entry barriers.<sup>229</sup> The Act also contained rules aimed at facilitating the access of these generators to the grid. Still, in practice, no major changes happened in the industry: only a few companies entered the market.<sup>230</sup>

The restructuring was started by the Electricity Act 1989. The monopolistic levels were – more or less<sup>231</sup> – separated; the transmission network was divided from the Central Electricity Generating Board.<sup>232</sup> The Area Boards were replaced by Regional Electricity Companies (RECs).<sup>233</sup> National Grid, which owned the transmission network, was put in the joint ownership of the RECs until 1995, when they were required to sell these assets,<sup>234</sup> which were then floated on the Stock Exchange.<sup>235</sup> Transmission and distribution networks remained regulated and they were accessible to all companies by mandatory open access<sup>236</sup>: the Director General of Electricity Supply was responsible for the price cap regulation imposed on the network companies (National Grid Company and the Regional Electricity Companies). National Grid used a zonal method – based on the incremental cost of

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<sup>229</sup> Pond (2006)

<sup>230</sup> Sas (1990) 485

<sup>231</sup> The distribution and retail functions remained integrated at this stage as described later.

<sup>232</sup> Vickers (1995) 1

<sup>233</sup> Simmonds (2002) 3

<sup>234</sup> Steve Thomas, 'The British Model in Britain: Failing slowly' (2004) International Workshop on: "Thirty Years of World Energy Policy – cum – Editorial Board Meeting of Energy Policy" Hong Kong Baptist University, 10-11

<sup>235</sup> Pond (2006) 3, Simmonds (2002) 5

<sup>236</sup> Chi-Keung Woo, Debra Lloyd, Asher Tishler, 'Electricity market reform failures: UK, Norway, Alberta

and California' (2003) 31 Energy Policy 1105

the necessary developments made on the grid in that zone – for calculating the charges of its transmission services.<sup>237</sup>

The UK started the electricity reform before the EU therefore initially she was completely free to regulate the way she wanted. Later on she had to conform with the respective EU directives. This was not a problem: the Grid Code that contains rules on access fully complied with the regulated third party access regime prescribed by the 2003 EU Directives.<sup>238</sup>

In terms of structural changes – besides vertical separation – in order to kick start competition the CEGB was separated horizontally as well. Dividing up the generation portfolio was problematic as the power plants apply different technology, which means that their operation is not equally economical. The hardest part was dealing with the nuclear plants, especially as their decommissioning was known to be potentially costly. For this reason, initially the plan was to put the nuclear plants in a big portfolio, which then enables its owner to cover the cost of the decommissioning in the future and still earn profit overall. Shortly before the privatization the plan of selling the nuclear power plant was rejected, but it was then too late to re-think the whole issue of horizontal separation,<sup>239</sup> so at the end a big generator company National Power having 52% share and a smaller, Powergen producing 34% of the total capacity was privatised,<sup>240</sup> while the nuclear portfolio – under the name of Nuclear Electric – remained in public ownership.<sup>241</sup>

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<sup>237</sup> David Newbery, 'Electricity liberalisation in Britain: the quest for a satisfactory wholesale market design' available at: [http://www.sessa.eu.com/documents/wp/D13.2\\_Newbery.pdf](http://www.sessa.eu.com/documents/wp/D13.2_Newbery.pdf) accessed 26/01/2012 2, 9

<sup>238</sup> Martha M. Roggenkamp, Catherine Redgwell, Inigo Del Guayo, Anita Ronne (eds), 'Energy Law in Europe national, EU, and international regulation' (2<sup>nd</sup> edn. Oxford University Press, 2007) 1236

<sup>239</sup> Thomas (2004) 6, Pond (2006) 4

<sup>240</sup> Pond (2006) 4

<sup>241</sup> Sas (1990) 486

The structure of the Regional Boards basically remained untouched<sup>242</sup> and they were privatised in that state. The idea was that even this allows a so called “yardstick competition”, which means that as there are many similar companies - even though they are not competing against each other – they serve as a good basis for comparison.<sup>243</sup>

In Scotland there was no such restructuring; the two vertically integrated regional monopolies were privatised without any separation.<sup>244</sup>

There have been some compromises<sup>245</sup> from the beginning in terms of separating all levels (not just the competitive ones from the monopolistic ones); Powergen and National Power were allowed to supply large consumers directly, while RECs were allowed to take part in the generation business. RECs were permitted to cover their supply up to 15% of the electricity produced by them and allowing gas to be used for electricity generation enabled the building of cheap CCGT plants, so they started building power plants in order to counteract the generators’ power.<sup>246</sup> This seemed to be necessary, as the likelihood of new firms entering the market – without any existing interest in the electricity sector – was quite low.<sup>247</sup> Later on the two levels became more and more connected. In 1996 Powergen and National Power were required to sell some of their generation capacity, which was acquired by the biggest REC company,<sup>248</sup> even though by this acquisition it exceeded the 15% limit.<sup>249</sup>

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<sup>242</sup> They were renamed to RECs but essentially they were the same companies.

<sup>243</sup> cf Andrei Shleifer, ‘A theory of yardstick competition’ (1985) 16 Rand Journal of Economics 319

<sup>244</sup> Sas (1990) 486-487,

<sup>245</sup> Although a key part of the idea was the separation of the levels cf Simmonds (2002) 3

<sup>246</sup> Sas (1990) 486

<sup>247</sup> Thomas (2004) 5

<sup>248</sup> Pond (2006) 4

<sup>249</sup> Thomas (2004) 6

Generators, Powergen and National Power also wanted to buy RECs. An initial attempt in 1996 had been blocked by the Conservative government. The reason for that was clear: they allowed mergers only in order to erode the duopoly position of Powergen and National Power. However, later in 1998 – under the new Labour government – the acquisition was allowed. The only major condition was that the generators had to sell a bigger share of their generating capacity.<sup>250</sup> The explanation of this policy change might be that vertical integration between these levels by that time seemed to be unstoppable, and perhaps also unproblematic, although this issue is highly debated: it can be argued that allowing concentration was simply a mistake.

The separation between the levels became more and more blurred, and the “Big Six” companies became the key players in the electricity sector. These companies (British Gas, EDF Energy, E.ON Energy, NPower, Scottish Power, SSE) are to an extent vertically integrated, as they are both active in the generation and the supply level.

Partial vertical re-integration was concerning from a competition perspective, as REC companies were involved in distribution as well, which is a monopoly level. Unlike generation and transmission, the distribution and supply functions remained integrated for about a decade after the start of the reform in the 14 regions of the UK (excluding Northern Ireland), and – despite “yardstick competition” – RECs were effectively regional monopolies. The possible problem with this was that RECs could earn supra-competitive profit on the distribution level, which they could use to subsidize their retail business. As a matter of fact in 1999 Ofgem intervened to reallocate the costs between the levels: numerous companies were instructed to

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<sup>250</sup> Simmonds (2002) 5

reallocate their costs (in one case one third) from the distribution to the retail level.<sup>251</sup>

This arrangement was changed in 2000 by the Utilities act, which ammended the Electricity Act 1989, adding that: "The same person may not be the holder of both a distribution licence and a supply licence." This essentially means that since 2000, legal separation of the distribution and supply businesses is mandatory in the UK. On a voluntary basis some suppliers went even further and carried out ownership separation. By 2007 half of the regional distribution-supply incumbents have carried out ownership separation on a voluntary basis.<sup>252</sup> Integration between two competitive levels can, however also raise concerns. Even though generation and supply do not show characteristics of natural monopoly (such as the network levels) there may still be market power (collective dominance) on those levels. In this case (i.e. when there is dominance on the generation or supply levels) market power can be leveraged similarly to the situation where a natural monopolistic level is included in the value chain.

As a result of the already existing high level of separation the 2009 EU directives necessitated no changes in the UK.

In summary, vertical separation is a key solution used in the UK electricity reform. The generation and transmission levels have been completely (by ownership) separate since 1989 and distribution and supply is at least legally separated since 2000. At the same time there is integration between the competitive levels, which, however is a conceptually different issue.

Historical briefing:

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<sup>251</sup> Davies, Waddams (2007) 298-299

<sup>252</sup> *Ibid* 298-299

- 1983 – New Electricity Act *de jure* started the liberalisation
- 1989 – Ownership separation between generation and transmission
- 1998 – Powergen and National Power were allowed to buy RECs indicating the start of a new policy tolerating vertical integration between generation and supply.
- 2000 – compulsory legal separation of distribution and supply (and ownership separation on a voluntary basis in many cases)

### **2.2.1.2 Germany**

In Germany a system of one vertically integrated public monopoly never existed. There have always been several suppliers. Most of them were publicly owned or in mixed ownership,<sup>253</sup> but some privately owned suppliers existed as well. The fact that there were many suppliers does not mean that there was some kind of competition in the market; they were regional monopolies. These suppliers were vertically integrated companies, and they supplied electricity within the framework of a franchise system to consumers in a certain area. Furthermore these suppliers concluded contracts with each other and in these contracts they explicitly excluded the possibility of competing with each other.<sup>254</sup>

Ultimately the German electricity industry evolved into a so called three tier system:

1. The first tier consists of those companies who were active in the transmission level as well.<sup>255</sup> These firms were typically vertically integrated: they own huge generation capacity, high voltage long distance transmission

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<sup>253</sup> This means that the company's ownership was shared and there were private owners as well.

<sup>254</sup> Von Danwitz (2006) 426-427

<sup>255</sup> Lullit Getachew, 'The market structure of the power transmission and distribution industry in the developed world' in Joanne Evans, Lester C. Hunt eds. *International Handbook on the Economics of Energy* (Edward Elgar Publishing 2009) 553

networks, but may as well have been active at the distribution level and even supply to consumers.<sup>256</sup> At the beginning of the reform process there were seven such companies.<sup>257</sup>

2. The second tier<sup>258</sup> consisted of companies that only have regional reach. These companies were also more or less vertically integrated. They might have owned smaller power plants and transmit electricity from either their own plant or electricity produced by tier 1 companies to local suppliers or even to end consumers. There were approximately 60-70 such companies.
3. The third tier companies only had local significance. These companies were normally not integrated; they did not own any power plants, just bought electricity in large quantities from tier 1 and 2 companies and then transmitted it to their consumers. There were around 800-900 such companies.<sup>259</sup>

Simply the fact that there were numerous different companies and not just one integrated monopoly as in most European countries is at least in theory an advantageous starting point for liberalization.<sup>260</sup>

The '96 EU Directive was implemented in Germany by the Energy Act of 1998. By that time the three tier system shrank to a two tier system. The original second tier basically diminished, only some companies active in generation and transmission (first tier), and approximately 950 supply (similar to the original third tier) companies remained.<sup>261</sup>

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<sup>256</sup> Von Danwitz (2006) 427

<sup>257</sup> See the mergers in detail latter.

<sup>258</sup> Getachew (2009) 553

<sup>259</sup> Von Danwitz (2006) 428

<sup>260</sup> *Ibid*

<sup>261</sup> Getachew (2009) 553

The Directive prescribed accounting separation of the transmission network. However, the German rules implementing the separation did not effectively restrict such vertical integrations as they were enforced quite poorly.<sup>262</sup>

First tier companies made the best out of this shortcoming: after the act came into force both horizontal concentration and vertical integration increased. In summary VEBA and VIAG merged to E.On, RWE acquired VEW, EVS and Badenwerk merged to EnBW, HEW BEWAG and VEAG merged to Vattenfall. The government welcomed this new structure, as it believed that four firms in the German market are enough to maintain competition, while by these mergers the German firms have more power so they can compete with foreign firms.<sup>263</sup> Instead of separating their transmission businesses the first tier companies became strongly integrated.<sup>264</sup>

As the ownership of the monopolistic levels did not change and the sector remained integrated the question of how much competition the Act can bring to the industry remained dependent almost exclusively on its access rules.<sup>265</sup>

Under the first Directive Germany was the only Member State where the system of negotiated access had been chosen.<sup>266</sup> This essentially meant that there was no ex-ante regulation, only the possibility of an ex-post intervention by the Federal Cartel

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<sup>262</sup> Brunekreeft, Tweleemann (2006) 2

<sup>263</sup> Brunekreeft, Tweleemann (2006) 4-5

<sup>264</sup> Paul L. Joskow, 'Lessons Learned From Electricity Market Liberalization' [2008] *The Energy Journal*, Special Issue. *The Future of Electricity: Papers in Honor of David Newbery*. 20

<sup>265</sup> Michael Cieslarczyk, Manfred Ungemach 'Liberalisation and Energy Exchanges in Germany' in Martha M. Roggenkamp, François Boisseleau *The regulation of power exchanges in Europe Volume 2 of Energy & law* (2005 Intersentia) 165

<sup>266</sup> Gert Brunekreeft, 'Regulation and Third-Party Discrimination in the German Electricity Supply Industry' (2002) 13 *European Journal of Law and Economics* 203

Office (Bundeskartellamt) existed.<sup>267</sup> The parties requiring and providing access were free to negotiate on the terms and most importantly on the access tariffs.<sup>268</sup> This however, did not mean that third parties requiring access had to bargain on their own with the companies active in the transmission and distribution levels, which would have probably meant that the parties would have been in unbalanced bargaining positions, and this would have favoured the network owners. Instead two associations of the transmission and distribution system operators concluded contracts with two associations of third parties. The calculating method of the access tariffs had been defined in contracts, which had been accepted as *de facto* binding throughout the whole electricity industry. Whether this system was beneficial is quite controversial. While some argue that self-regulation offers an alternative in several cases,<sup>269</sup> here, the system was inefficient and led to supra-competitive access prices.<sup>270</sup> The sector was characterised by high network charges and low margins on the competitive levels, which led to little new entry.<sup>271</sup> According to Lapuerta and Moselle the network charges in Germany were much higher than in the United Kingdom, Norway and the United States. Charges are especially extensive for long distances, for short-term periods and off-peak periods. The service is also inflexible (in compared to other transmission markets) and burdensome. These altogether are especially problematic for new entrants.<sup>272</sup> The most important critique came from the Federal Cartel Office which in some instances established that access prices were excessive, even though it was counted

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<sup>267</sup> Growitsch, Wein (n 56) 165

<sup>268</sup> Brunekreeft, Twelemaan (2006) 2

<sup>269</sup> Anil K. Gupta, Lawrence J. Lad, 'Industry Self-Regulation: An Economic, Organizational, and Political Analysis' (1983) 8 (3) *The Academy of Management Review*, 416, 424

<sup>270</sup> Joskow [2008] 25

<sup>271</sup> Brunekreeft (2002) 213

<sup>272</sup> Carlos Lapuerta, Boaz Moselle, 'Network Industries, Third Party Access and Competition Law in the European Union' 1999 (19) *Northwestern Journal of International Law & Business*, 477

according to the contracts. Also, the Study Commission on Monopolies (Monopolkommission) stated that this system of setting the prices is inappropriate.<sup>273</sup>

Later on the 2003 EU directive required legal or ownership separation of the transmission networks. The German implementation of the directive was incorporated in the Energy Act of 2005 (Energiewirtschaftsgesetz) which came to effect the same year. The new Act was aimed at solving the aforementioned defects of the sector by replacing the previous light handed regulatory system.<sup>274</sup> According to the new requirements, legal unbundling had been achieved in Germany, but the national regulation went no further than necessitated by the Second Directive. Transmission system operators were required to carry out legal separation by 13 July 2005.<sup>275</sup> The previous era of vertical integration came to an end; the first tier companies now had to separate their transmission businesses.<sup>276</sup>

Distribution system operators with over 100 000 consumers also had to implement functional and accounting separation by 13 July 2005.<sup>277</sup> The legal separation of such distribution businesses, however, was delayed until 2007.<sup>278</sup> Distribution network operators with less than 100 000 consumers had to carry out accounting

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<sup>273</sup> Von Danwitz (2006) 440-441

<sup>274</sup> Haucap (2007) 303

<sup>275</sup> International Energy Agency, 'Energy Policies of IEA Countries – Germany 2007 Report' available at: <http://www.iea.org/publications/freepublications/publication/germany2007.pdf> accessed 10/10/2014, 122

<sup>276</sup> Getachew (2009) 553

<sup>277</sup> IEA (2007) 122

<sup>278</sup> Getachew (2009) 568

separation by 13 July 2005, but they are not be obliged to take this further to legal separation.<sup>279</sup>

By 2011 Germany implemented the third (2009) EU package as well. The unbundling rules of the Third Regulatory Package concerning distribution system operators have been incorporated into the new the Energy Act.<sup>280</sup> The new rules for transmission system operators have also been implemented: out of the 5 operators 3 carried out ownership unbundling and 2 have chosen the Independent Transmission Operator option.<sup>281</sup>

In summary, in the German electricity sector there is a tradition for vertical integration, which has only been changed to meet the minimum of the EU requirements in 2005. Before 2005 there was no effective separation (even accounting separation was enforced poorly) which was accompanied with other major regulatory issues, such as the lack of a regulator and inefficient access regulation.

Historical briefing:

- 1998 – The '96 EU Directive was implemented by Germany.

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<sup>279</sup> IEA (2007) 122

<sup>280</sup> CEER, 'Status Review on the Transposition of Unbundling Requirements for DSOs and Closed Distribution System Operators' available at: [http://www.energy-regulators.eu/portal/page/portal/EER\\_HOME/EER\\_PUBLICATIONS/CEER\\_PAPERS/Cross-Sectoral/Tab/C12-UR-47-03\\_DSO-Unbundling\\_Status%20Review\\_Public.pdf](http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/CEER_PAPERS/Cross-Sectoral/Tab/C12-UR-47-03_DSO-Unbundling_Status%20Review_Public.pdf) accessed: 15/06/2014, p. 32

<sup>281</sup> Annegret Groebel, (Bundesnetzagentur) 'Unbundling models in the EU and certification of TSOs in Germany' presentation available at: [http://www.ceer.eu/portal/page/portal/EER\\_HOME/EER\\_INTERNATIONAL/EU-US%20Roundtable/10supthsup%20EU-US%20Roundtable/10th%20EU-US\\_Session%20V\\_Groebel%20-%20unbundling.pdf](http://www.ceer.eu/portal/page/portal/EER_HOME/EER_INTERNATIONAL/EU-US%20Roundtable/10supthsup%20EU-US%20Roundtable/10th%20EU-US_Session%20V_Groebel%20-%20unbundling.pdf) accessed 15/06/2014, p. 27

- 1998 (onwards) – Set of mergers resulted in four (E.On, RWE, EnBW, HEW, Vattenfall) vertically integrated electricity companies.
- 2003 – EU directive requested legal or ownership separation of the transmission networks.
- 2005 – The German implementation of the directive was incorporated in the Energy Act of which came to effect in the same year
- 2011 – The third EU package has been implemented

## **2.2.2 The telecommunications sector**

### **2.2.2.1 The UK**

Initially the UK telecommunications reform followed a path very different from the electricity reform. Instead of establishing that the network is a natural monopoly and competition is only possible in the connected retail services' market – which then has to be fostered by guaranteeing access to the network without discrimination and by fair terms – the plan with telecommunications was to achieve infrastructure based competition. For this reason BT had not been separated horizontally and vertically: it remained an integrated entity,<sup>282</sup> while a competitor – also providing fixed-line telecommunications services – was sought to be the way of creating competition.<sup>283</sup>

Accordingly, the British Telecommunications Act 1981 (in order to protect Mercury from other entrants) only one licence was given out, to Mercury Communications Ltd who was expected to compete with BT in all possible levels. According to its licence it could provide all the different forms of digital telecommunications

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<sup>282</sup> Vickers (1995) 1

<sup>283</sup> John E. Kwoka, 'The Effects of Divestiture, Privatization, and Competition on Productivity in US. And UK. Telecommunications' (1993) 8 Review of Industrial Organization 49, 51

services, but it was not allowed to lease any of BT's equipment.<sup>284</sup> Initially BT was not required to interconnect with Mercury. Indeed, BT refused to provide access to Mercury saying that Mercury has to install its own line to its customers.<sup>285</sup> The Telecommunications Act 1984 concerned the access issue. The Director-General of Telecommunications was given the power by the Act of ordering BT to provide access. It did not take long for the new rule to be applied in practice: in October 1985 terms and conditions of interconnection between Mercury and BT had been defined for the first time.<sup>286</sup>

Mercury started providing its service in 1983. Its strategy was to connect big business consumers and to supply long distance and international calls,<sup>287</sup> and it was never keen on deploying a parallel network. Its penetration remained quite limited: after nearly 10 years it only had a market share of 10%.<sup>288</sup> It was clear that the policy failed to meet the expectations, namely to deliver facilities based competition on all levels. Critics stated that the policy rather impeded the development of competition in the sector.

The government issued a Green Paper in 1990 which was followed by a White Paper on the former policy. According to the conclusive findings of the white paper there was a need to:

- Open the market i.e. to give licence for everybody who is making a reasonable request, also to let cable operators enter the market and mobile

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<sup>284</sup> Helen Kemmitt, John Angel, *The Telecommunications Regime in the United Kingdom* in Ian Walden ed. *Telecommunications Law and Regulation* (3rd edn. OUP 2009) 133

<sup>285</sup> Walden, 'Access and Interconnection' (n 17) 401

<sup>286</sup> *Ibid*

<sup>287</sup> Alexander Börsch, 'What happens after privatization? Globalization, corporate governance and adjustment at British Telecom and Deutsche Telekom' (2004) 11 *Journal of European Public Policy* 600

<sup>288</sup> Kemmitt, Angel (2009) 129

companies to provide fixed-line services. At the same time, BT was still to be prohibited from entering the cable market as there was a fear that BT's entry would deter others from investing.

- Ensure that others have equal access<sup>289</sup> to the necessary facilities.
- Enable simple retailers (parties without any facilities just re-selling others' services to consumers) to operate in the market.<sup>290</sup>

After the liberalisation, the new public telephone operators got licences in 1993, which again, raised the need of access. In order to get access they had to prove that they had relevant connectable system<sup>291</sup> (RCS) status. Most of the new entrants could show this and so, were eligible for interconnection. Later on, the implementation of the Interconnection Directive in the UK<sup>292</sup> changed the way access issues were regulated. All firms who had RCS status became Annex II firms. Annex II however had a wider membership than just RCS companies, which meant that many new firms (internet service providers, etc.) now had the right (and obligation) of access. Moreover, they were entitled to get access to the SMP operators (most importantly BT) network on regulated terms and cost-based prices.<sup>293</sup>

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<sup>289</sup> CF also OECD [2003] 7

<sup>290</sup> Kemmitt, Angel (2009) 138-140

<sup>291</sup> "Relevant Connectable System (RCS) Defined in BT's licence. In essence, and with certain exceptions, it means a telecommunication system run under an individual licence, authorised for connection to BT's system, and providing services which have been or are to be conveyed over BT's network, for reward to the public. BT is required to provide network services to operators with RCS status at Condition 13 charges (i.e. essentially "cost plus"). The main categories of licensee with RCS status are PTOs, international simple resale operators and personal numbering operators."  
[http://www.ofcom.org.uk/static/archive/oftel/publications/1999/competition/promote/annex\\_c.htm](http://www.ofcom.org.uk/static/archive/oftel/publications/1999/competition/promote/annex_c.htm) accessed: 19/01/2012

<sup>292</sup> Telecommunications (Interconnection) Regulations 1997/2931

<sup>293</sup> Walden, 'Access and Interconnection' (n 17) 405-406

The second half of the '90s amplified the shift of policy from aiming to achieve facilities based competition to service based competition.<sup>294</sup> In 1998 the new Director General of Telecommunications started a consultation concerning these issues. By the end of 1999 the consultation process led to the unbundling of the local loops, which enabled other providers to compete directly with BT. This was backed-up by EU law.<sup>295</sup> In its licence BT was required to unbundle the local loops by 2001. The new measure was not as successful as it was expected previously.<sup>296</sup> Initially numerous operators expressed their possible demand, but many of them later pulled out. Still, by now local loop unbundling seems to be successful; although in 2005 there were only 123 000 unbundled local loops by now there are almost 6 million.<sup>297</sup>

The history of BT's separation started before the actual regulatory efforts for the separation began. The issue of separating BT has been considered by Oftel in 1999 as well, however, the idea was rejected at that time for two reasons:

1. Separation in practice would have been problematic;
2. The benefits of integration (economies of scope) outweigh the costs, as long as competition is ensured by regulation.<sup>298</sup>

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<sup>294</sup> This means that instead of promoting competition on all levels including the network which might be a natural monopoly (facilities based competition), now competition is only aimed at that markets that are surely not natural monopolies (service based competition).

<sup>295</sup> CF Regulation 2887/2000 of the European Parliament and of the Council of 18 December 2000 on unbundled access to the local loop

<sup>296</sup> Jason Whalley, Peter Curwen, 'Is Functional Separation BT-Style the Answer?' (2008) 71 Communications & Strategies, 145, 148

<sup>297</sup> CF <http://consumers.ofcom.org.uk/2009/07/unbundled-lines-4/> accessed 19/05/2014

<sup>298</sup> Oftel, 'Promoting Competition in Services over Telecommunications Networks' (Consultation) 1999 available at:

<http://www.ofcom.org.uk/static/archive/oftel/publications/1999/competition/promote/chapt4.htm> accessed 19/01/2012

The document concerned the anticompetitive issues of cross subsidisation and discrimination as potentially significant threats, since BT (especially at the time) was integrated across the different markets of the telecommunications sector. However, it was concluded that “there is a regulatory framework already in place to deal with unfair cross subsidy and undue discrimination issues”.<sup>299</sup>

The Communications Act 2003 implemented the changes necessitated by the 2003 EU package. The new rules were therefore very much similar to the ones presented at the EU part, plus some connected necessary modifications have been made.<sup>300</sup>

According to the Communications Act 2003 Ofcom became the regulator of the telecommunications industry.<sup>301</sup> Ofcom then started off by carrying out a sector review,<sup>302</sup> which was the second such investigation (after the review in 1990). The review established that BT was still dominating the sector; it was bigger than its major competitors altogether. Another observation was that other operators still do not have fair access to BT’s facilities, which creates a set of connected problems. Therefore, Ofcom decided to focus on the problem of access with two measures:

- BT was required to provide the same services for the same prices for wholesalers as it provides for itself.
- BT was ordered to make changes in its organisation.

Although it has never been established that BT engage in discriminatory practices it was suspected to do so: as a vertically integrated firm it had the incentives for it,

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<sup>299</sup> *Ibid* 4.4

<sup>300</sup> For example before, firms had to register at Oftel to get Annex II status, which was no longer necessary after 2003. Ofcom initially decided to keep the list on a voluntary basis, but later on this practice has been abandoned as it turned out to be rather ineffective.

<sup>301</sup> Kemmitt, Angel (2009) 142

<sup>302</sup> Final statements on the Strategic Review of Telecommunications, and undertakings in lieu of a reference under the Enterprise Act 2002 Available at: <http://stakeholders.ofcom.org.uk/binaries/consultations/752417/statement/statement.pdf> accessed 2011/09/27

and simply knowing this, could have been enough in itself to deter competitors from entering the market.<sup>303</sup>

Ofcom used the Enterprise Act 2002 as a legal basis of reaching a legally enforceable settlement with BT (BT Undertakings), which was a quicker and simpler way than involving the Competition Commission<sup>304</sup> (which BT wanted to avoid) who otherwise had the power to order the separation of BT. It was also beneficial for BT to accept such a solution as this way it could avoid a full and lengthy investigation of the Competition Commission and perhaps stricter separation.<sup>305</sup> In addition Ofcom offered some regulatory reduction in return for BT's voluntary contribution. Some argue that such a separation could have been financially advantageous for BT.<sup>306</sup>

BT already restructured itself in 2000-2001 as part of the program aimed at reducing its debts.<sup>307</sup> This time, (in 2005) according to the Undertakings BT has been divided into four parts: Openreach, BT Retail, BT Wholesale and BT Global.<sup>308</sup> BT agreed to divest Openreach as an operationally independent entity (although it was still owned by BT)<sup>309</sup>, who maintains the telecommunications infrastructure

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<sup>303</sup> Richard Cadman, 'Invention, Innovation and Diffusion of Local Loop Unbundling in the UK' (2012) 12-8 CCP Working Paper available at: [http://competitionpolicy.ac.uk/c/document\\_library/get\\_file?uuid=725f4cd4-26b5-456d-ba00-15a00d489371&groupId=107435](http://competitionpolicy.ac.uk/c/document_library/get_file?uuid=725f4cd4-26b5-456d-ba00-15a00d489371&groupId=107435) accessed: 28/05/2012, 13

<sup>304</sup> Whalley, Curwen (2008) 148

<sup>305</sup> Cadman (2010)370

<sup>306</sup> CF OECD [2003] 17-18

<sup>307</sup> CF: The History of BT <http://www.btplc.com/Thegroup/BTsHistory/History.htm> accessed 23/11/11, Mary Fagan 'BT set for more restructuring' The Telegraph <http://www.telegraph.co.uk/finance/2740499/BT-set-for-more-restructuring.html> accessed 23/11/11

<sup>308</sup> CF <http://www.btplc.com/Thegroup/BTsHistory/History.htm> accessed 04/01/2012

<sup>309</sup> Whalley, Curwen (2008) 148

and provides services to all operators, including BT's other division. Another requirement was that Openreach has to supply the same products, under the very same conditions to all operators (Equivalence of Input). The separation means that Openreach should have an independent CEO who reports to the CEO of BT, but who is not a member of BT's operating committee. The annual operating plan of Openreach has to be approved by BT, but it enjoys significant freedom in making decisions within the framework of that plan. Openreach had to create its own brand name; it had to re-label its assets, from its buildings to the employees' uniforms. As Openreach is not a separate legal entity the employees are still BT employees from a legal perspective, but they can only get benefits according to Openreach's prospering, therefore they are only interested in Openreach's success. Otherwise, the relationship between BT and Openreach employees has been regulated by a Code of Practice.<sup>310</sup>

Although the creation of Openreach and the connected regulation are the most important parts of the Undertakings, the separation of BT's upstream and downstream services (other than Openreach) was carried out as well. The related Undertakings are significant too; these parts have to be individual organisations, there are restrictions on the information exchanges between them etc. Furthermore, BT Wholesale even had to create separate division for providing services on markets, where it enjoys significant market power (SMP) and which is not available from Openreach and a division for non-SMP services which are however important for other operators.<sup>311</sup>

In summary, access regulation in the telecommunications sector went through a long journey in the UK. Initially the aim was full facilities-based competition which would have eliminated the bottleneck, and thereby, the access issue. As this plan

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<sup>310</sup> Kirsch, Von Hirschhausen (2008) 74

<sup>311</sup> Kemmitt, Angel (2009) 145-149

failed, first access regulation was put in place, and then in 2006 BT has been separated from the network.

Historical briefing:

- 1981 – The British Telecommunications Act of 1981 separated the British Post Office into two companies: Post Office and BT, and allowed one more licence for a fixed network.
- 1982 – Licence was given to Mercury Communication
- 1984 – Telecommunications Act of 1984 served as the legal basis of the privatisation, also gave more rights to Mercury.
- 1985 – Cellnet and Vodafone got licences so a duopoly was created in the Mobile sector too.
- 2000-2001 – BT restructured itself in as part of the program aimed at reducing its debts.
- 2005 – BT has been divided into four parts: Openreach, BT Retail, BT Wholesale and BT Global.<sup>312</sup>

#### **2.2.2.2 Germany**

The first official proposal of the telecommunications reform in Germany dates back to 1981, when the German Monopoly Commission (Monopolkommission)

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<sup>312</sup> CF <http://www.btplc.com/Thegroup/BTsHistory/History.htm> accessed 17/11/2011

suggested that the terminal equipment market should be liberalized however, this did not trigger much political consideration.<sup>313</sup>

The first real step towards the reform goes back to 1989, when Deutsche Bundespost was separated to three operationally independent parts according to the different business activities: banking, postal and telecommunications.<sup>314</sup> The integration of regulatory and operational functions also ceased.<sup>315</sup> These separations did not affect the legal status of the firm, but at that time this was in compliance with the EU requirements.<sup>316</sup> Some financial independence had been achieved, but at this stage the company still remained integrated into the Ministry's administrative system.<sup>317</sup> Except for providing telephone services the sector was completely liberalised, this however did not change the sector much as 85% of the revenues of the telecommunications sector at that time<sup>318</sup> arose out of offering telephone services and therefore it was quite hard for alternative suppliers to compete against the incumbent. Moreover, the fact that the regulator was still not separated properly suggested that it was going to favour the incumbent which deterred new competitors from entering as well.<sup>319</sup>

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<sup>313</sup> Ingo Vogelsang, 'The German Telecommunications Reform – Where did it come from, Where is it, and Where is it Going?' (2003) 4(3) *Perspektiven der Wirtschaftspolitik* 317

<sup>314</sup> Börsch (2004) 601, Wangsik Kim, 'The Context of EU Telecommunications Reform Process: The Cases of Great Britain and Germany' (2008) 13 *International Review of Public Administration* 125

<sup>315</sup> OECD, 'Review of Regulatory Reform in Germany...' (n 197) 5

<sup>316</sup> Vogelsang (2003) 318

<sup>317</sup> Thomas Gehring, 'The consequences of delegation to independent agencies: Separation of powers, discursive governance and the regulation of telecommunications in Germany' (2004) 43 *European Journal of Political Research*, 681

<sup>318</sup> Vogelsang (2003) 318

<sup>319</sup> Gehring (2004) 681

The second stage – leading to the privatisation – started in 1994. More and more complaints were received by the government about Deutsche Bundespost Telekom being too expensive. The Federal Cartel Administration established that there was a practice of cross-subsidization from the voice to the data services which undermined competition in the latter. The Technology Ministry's own assessment on the issue also led to this conclusion. The unification of Germany necessitated investment in the former East Germany's telecommunications infrastructure, which was also an argument for privatisation, as the Government preferred these costs to be paid by private parties.<sup>320</sup>

Later on the German telecommunications reform followed the way shown by the EU aiming to create one EU wide competitive telecommunications market. Accordingly, the Telecommunications Act (Telekommunikationsgesetz) of 1996 – marking the third step of the reform – was influenced and necessitated by the EU legislation.<sup>321</sup> The Act ended the monopoly on transmission paths from 1998, so finally the whole sector had been liberalized.<sup>322</sup>

In line with the act Deutsche Telekom – as it has significant market power – was obliged to maintain accounting separation. However, this has not been enforced properly: only the standard German accounting rules were applied. The OECD review criticised this practice: it states that at least the audited accounts should be publicly available, similarly to the German electricity firms'. This is however not possible due to the fact that German corporate law is extremely strict on confidentiality of such information.<sup>323</sup>

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<sup>320</sup> Gehring (2004) 681

<sup>321</sup> OECD, 'Review of Regulatory Reform in Germany, Regulatory Reform in Telecommunications' (2004) OECD Reviews of Regulatory Reform 5-6

<sup>322</sup> Kim (2008) 126, Börsch (2004) 601

<sup>323</sup> OECD 'Review of Regulatory Reform in Germany...' (2004) 24

Germany did not experiment with creating a duopoly, still by the end of 1998 approximately 200 new telecommunications service providers got licences, prices were falling (to a greater extent than in most EU member states<sup>324</sup>) and also the incumbent market share decreased by more than 35%, which is considerably higher than what BT lost at the equivalent stage of the UK reform.<sup>325</sup>

Competition seemed to work well in long distance calls, where DT's market share was only 60% by 2001, and in international calls, where DT's share fell to 50%. However, DT managed to secure great share of the Digital Subscriber Line (DSL) services, where in 2002 only 4.4% of the lines was provided by competitors.<sup>326</sup>

The Telecommunications Act of 1996 introduced local loop unbundling. Germany was the first country in Europe experimenting with local loop unbundling. Initially there were shortcomings in terms of access. In particular, the EC started an investigation in 2001 as Germany allegedly failed to transpose sufficient rules on publishing formal reference offers for accessing the local loop. The shortcomings were remedied in 2002 and therefore the investigation was stopped.<sup>327</sup>

A further issue was DT's price squeeze. The case went through two appeals. The Commission decided the case in 2003.<sup>328</sup> DT appealed this decision in front of the General Court, where the Commission's decision was largely affirmed.<sup>329</sup> DT further appealed to the Court of Justice, which dismissed DT's action in its entirety in

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<sup>324</sup> European Central Bank, 'Price effects of regulatory reform in selected network industries'[ 2001] 17

<sup>325</sup> Börsch (2004) 601

<sup>326</sup> OECD, 'Review of Regulatory Reform in Germany...' (2004) 49

<sup>327</sup> OECD, 'Review of Regulatory Reform in Germany...' (2004) 28-29

<sup>328</sup> 2003/707/EC: Commission Decision of 21 May 2003 relating to a proceeding under Article 82 of the EC Treaty (Case COMP/C-1/37.451, 37.578, 37.579 — Deutsche Telekom AG)

<sup>329</sup> Deutsche Telekom AG v Commission [2008] E.C.R. II-477; [2008] 5 C.M.L.R. 9.

2010.<sup>330</sup> The case concerned access to the local loops. While the subscriber line rental was € 11 the access price to new entrants was € 12.48. The German Regulators decision was controversial. Firstly, the prices concerned were regulated (although DT enjoyed some freedom in pricing<sup>331</sup>) therefore a competition law intervention raised concerns over legal certainty for regulated firms.<sup>332</sup> and secondly, instead of ordering DT to lower its access price below the subscriber line rental, it was ordered to raise it to € 13.50 and reduce the access price to € 11.80.<sup>333</sup>

Germany has not considered carrying out functional separation in the telecommunications sector.<sup>334</sup> In fact, the German Ministry of Economics and Technologies did not even accept functional separation as a remedy.<sup>335</sup> In 2006 the German parliament enacted rules which prevent the incumbent Deutsche Telekom's competitors from accessing its newly built super-fast network, as it accepted that Deutsche Telekom needs such defence in order to be able to secure its investment.<sup>336</sup> The Commission opposed the measures and in this connection Viviane Reding said that "'Functional separation", however, could become a new

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<sup>330</sup> Deutsche Telekom AG v European Commission (C-280/08 P) [2010] 5 C.M.L.R. 27.

<sup>331</sup> Dunne (2012) 33

<sup>332</sup> Niamh Dunne, 'Margin Squeeze: From Broken Regulation to Legal Uncertainty' (2011) 70 The Cambridge Law Journal, 34, 34

<sup>333</sup> OECD, 'Review of Regulatory Reform in Germany...' 29

<sup>334</sup> Tatiana Tropina, Jason Whalley, Peter Curwen, 'Functional separation within the European Union: Debates and challenges' (2010) 27 Telematics and Informatics 231, 237

<sup>335</sup> Arata Kamino, Hidenori Fuke, 'Diffusion of Broadband Internet and Structural Separation' in Anastassios Gentzoglani, Anders Henten edn. *Regulation and the Evolution of the Global Telecommunications Industry* (Edward Elgar Publishing, 2010) 226

<sup>336</sup> Kevin J. O'Brien, 'German Parliament approves rules banning rivals from Deutsche Telekom's new network - Business - International Herald Tribune' (2006) The New York Times available at: <http://www.nytimes.com/2006/12/15/business/worldbusiness/15iht-telekom.3917659.html> accessed 24/11/2011

remedial measure under European law".<sup>337</sup> Ultimately the case was decided by the ECJ in favour of the Commission.<sup>338</sup>

Historical briefing:

- 1989 – The first real step of the reform: Deutsche Bundespost was separated to three operationally independent parts
- 1990 – Licence was given for Mannesmann to provide mobile services. Additional licences were issued in
- 1994 – The second stage – leading to the privatisation – started when the Federal Cartel Administration established that there was a practice of cross-subsidization from the voice to the data services which undermined competition in the latter.
- 1995 – The privatisation of the part which dealt with the telecommunications services – Deutsche Bundespost Telekom – started.
- 1996 – The Telecommunications Act of 1996 – marking the third step of the reform – ended the monopoly on transmission paths from 1998, introduced local loop unbundling, set up a National Regulatory Authority (Regulierungsbehörde für Telekommunikation und Post)

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<sup>337</sup> Viviane Reding, 'Europe's telecommunications market ahead of the reform of the EU's regulatory framework' 13. Internationale Handelsblatt Jahrestagung "Telekommarkt Europa" Düsseldorf, 12 June 2007

<sup>338</sup> European Commission v Germany [2009] case C-424/07, OJ C283/19

### **2.3 The effect of vertical separation on the incumbents' market share**

This part of the paper assesses whether stronger separation and lower market shares for the incumbent go hand in hand in practice.

In terms of the legal solutions it can be established that among the reforms described, the weakest solution was implemented in the early stages (pre 2005) of the German electricity reform, when neither vertical separation, nor effective access regulation existed. A stronger solution has been implemented in the telecommunications sectors in both countries. In the UK after the duopoly experiment, as the focus shifted from facilities-based to service-based competition in the telecommunications sector, fair access to the local loop was aimed to be achieved through access regulation. Germany implemented the same solution: no vertical separation, but access regulation. In addition to that, in 2005 BT (more or less freely) decided to carry out a weak form of vertical separation (created an operationally independent unit) in respect of the local loop. After the initial stages (after 2007) the German electricity sector went through vertical separation in the form of legal separation. The strongest solution has been implemented (ownership separation) in the UK, where the electricity transmission networks have been vertically separate since 1989 and distribution networks are (at least) legally unbundled since 2000.

In order to assess the effects of the regulations, one option would be to assess the regulation's complex effect on competition, through some measures that relate to the level of competition in a market, however establishing connections between regulatory options and the indicators may not lead to robust conclusions.

There are studies using cross-country dataset,<sup>339</sup> establishing a link between regulation and their effect on prices, market concentration etc. However, even a quick look at the literature can illustrate the lack of robust findings:

Looking at unbundling's effect on prices Copenhagen Economics<sup>340</sup> finds that electricity prices are lower when there is a higher level of unbundling (ownership unbundling being the highest), but they did not find the same result for gas. Assessing unbundling between generation and transmission Steiner<sup>341</sup> finds that unbundling is associated with higher capacity utilisation rates and not lower prices (although in the study unbundling includes even accounting separation). Hattori and Tsutsui<sup>342</sup> found that unbundling (ownership as well as legal) results in higher prices. The reason why three studies can reach three different conclusions is likely to be that there are too many factors that might affect a certain indicator.

Instead of trying to assess how competition is affected by vertical separation, this paper assesses the connection between vertical separation and the incumbents' market share, based on data presented in the previous chapter, in light of the previous detailed case studies. The reason for using solely market shares, and not prices or consumer satisfaction is that its connection to vertical separation seems to be the most straightforward. Prices and consumer satisfaction depend on many factors, and ultimately these indicators are more remotely related to vertical

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<sup>339</sup> Faye Steiner, 'Regulation, Industry Structure and Performance in the Electricity Supply Industry' OECD Economic Studies No. 32, 2001/I

<sup>340</sup> Copenhagen Economics: Market Opening in Network Industries: Part II Sectoral Analyses, Copenhagen Economics for DG Internal Market, 2005

<sup>341</sup> Steiner (2001)

<sup>342</sup> T. Hattori , M. Tsutsui : Economic Impact of Regulatory Reforms in the Electricity Supply Industry: A Panel Data Analysis for OECD Countries, in: Energy Policy, Vol.32, No. 6, 2004, pp.823-832.

integration, although market concentration depends on various factors too (such as economies of scale and scope, highly specific assets etc.).<sup>343</sup>

In theory a more integrated company has more opportunities and incentives for squeezing its competitors' profits through cross financing between its monopolistic and competitive businesses. Cross subsidisation usually takes the form of allocating cost, not transferring actual funds.<sup>344</sup> It can allocate all the costs possible to the monopolistic business levels, thereby raising the competitors' cost and reducing its own cost on the competitive levels. As the network prices are normally regulated, and the regulated price is set by some method which is ultimately based on the costs, the vertically integrated company will have an incentive to try and allocate as much of its overall as possible to this level anyway. Cross financing, however is the means not the end; the aim of the whole practice is to drive competitors out of the market and achieve market power on the competitive level. This leveraging of market power should result in companies leaving the market (or not entering) which translates to higher market share for the incumbent in the competitive level.<sup>345</sup>

Besides, this indicator is of key significance in practice. According to Beesley and Littlechild "[p]romoting competition involves facilitating the entry of new competitors, including the entry of existing competitors into new parts of the market"<sup>346</sup> they also establish that "[i]n order to promote competition, the

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<sup>343</sup> Brian Levy and Pablo T. Spiller, 'The Institutional Foundations of Regulatory Commitment: A Comparative Analysis of Telecommunications Regulation' (1994) 10 (2) *Journal of Law, Economics, & Organization*, 201, 204

<sup>344</sup> Geradin, O'Donoghue (2005) 362

<sup>345</sup> The incumbent's high market share however does not necessarily mean that there is a low level of competition on the market: it might be the case that the incumbent is the most effective competitor, in which case an intervention is not justified.

<sup>346</sup> M. E. Beesley, S. C. Littlechild, 'The Regulation of Privatized Monopolies in the United Kingdom' (1989) 20b(3) *The RAND Journal of Economics*, 454, 466

regulator's essential task is to assess the relation between his actions (...) and the probability that entry will actually occur.”<sup>347</sup> Furthermore, when assessing competition, regulators and competition authorities normally look for signs of market power. Although it is widely accepted that market power cannot be assessed solely on the basis of market shares, but other factors such as entry barriers, buyer power have to be taken into account as well, market shares tends to be the most influential measure of market power in practice.<sup>348</sup> From this it follows that (since vertical separation is regarded as a pro-competitive method) an authority may consider stricter separation as a tool to be applied when the incumbent market share suggests that it has a continuing dominant position.

In the following, the paper contrasts these regulatory solutions to the market developments. These are first assessed by sector, than the results of the sectors are compared.

### **2.3.1 Electricity**

In the electricity sector there are two different networks (two monopolistic levels), that are connected to two different competitive levels. Therefore, these are analysed separately.

#### **2.3.1.1 Generation-transmission**

In the UK, ownership separation between the generation and the transmission levels was carried out at the beginning of the reforms and, therefore, the problem

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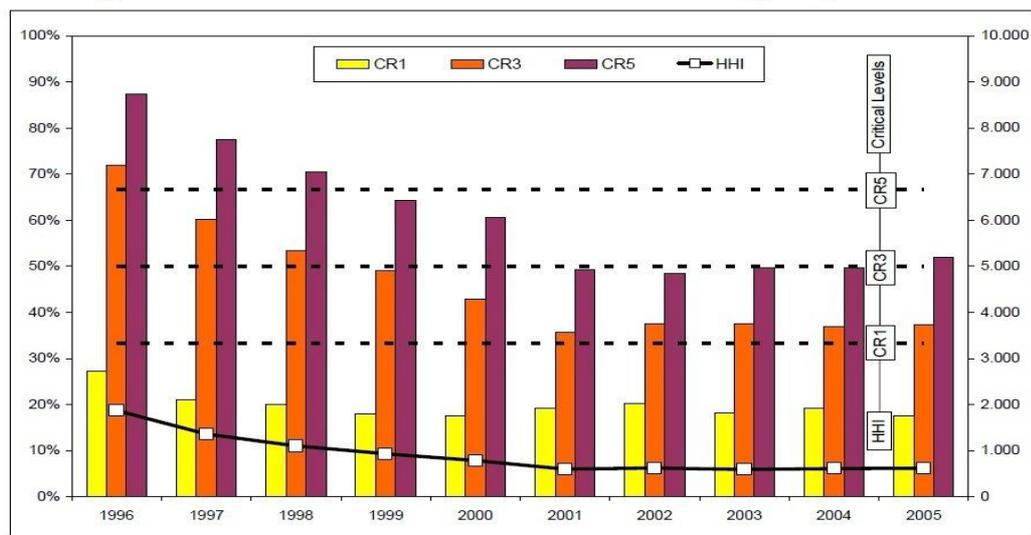
<sup>347</sup> *Ibid*

<sup>348</sup> Furthermore, within EU countries it is unlikely that big differences will exist in these respects.

of discriminating between firms on the competitive level was already solved, which means that access regulation was rather just needed to prevent monopoly prices on the monopolistic level, that otherwise would result in deadweight welfare loss for the society. Whether this was successful or not is not important from the perspective of the incumbents' market share loss in the competitive levels, because all firms had to pay the same prices. There was no possibility of exclusionary practices throughout cross-financing between generation and transmission, which could have distorted competition and help the incumbents retain market share. In Germany, however both ownership separation (of some transmission network operators) was only carried out much later (2011).

Looking at the data of Matthes et. al.<sup>349</sup> on generation market concentration confirms the expectations:

Power generation market concentration in the United Kingdom, 1996-2005



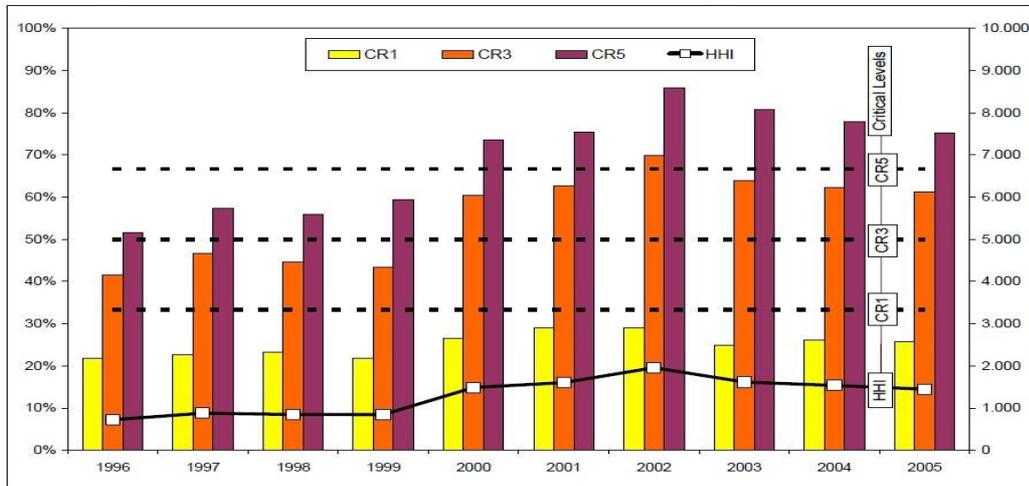
Dr. Felix Chr. Matthes, Katherina Grashof, Sabine Gores, 'Power Generation Market Concentration in Europe 1996-2005. An Empirical Analysis' [2007] Öko-Institut, 10

Figure 45 UK generation market concentration (1996-2005)

<sup>349</sup> Dr. Felix Chr. Matthes, Katherina Grashof, Sabine Gores, 'Power Generation Market Concentration in Europe 1996-2005 - An Empirical Analysis' (2007) available at: [www.oeko.de/oekodoc/308/2007-002-en.pdf](http://www.oeko.de/oekodoc/308/2007-002-en.pdf) accessed 12/08/2014

In the UK, where there was no common ownership between the transmission and generation, the generation market's concentration has been decreasing steadily.

Power generation market concentration in Germany, 1996-2005



Source: Dr. Felix Chr. Matthes, Katherina Grashof, Sabine Gores, 'Power Generation Market Concentration in Europe 1996-2005. An Empirical Analysis' [2007] Öko-Institut 14

Figure 46 Germany generation market concentration (1996-2005)

In Germany where there was no ownership separation (indeed, even legal separation was only introduced in 2005) between the generation and transmission level, during the same period market concentration was rising.

Legal separation between the generation and transmission levels became a requirement in 2005, however, according to Eurostat data, even this seems to be insufficient to induce entry:

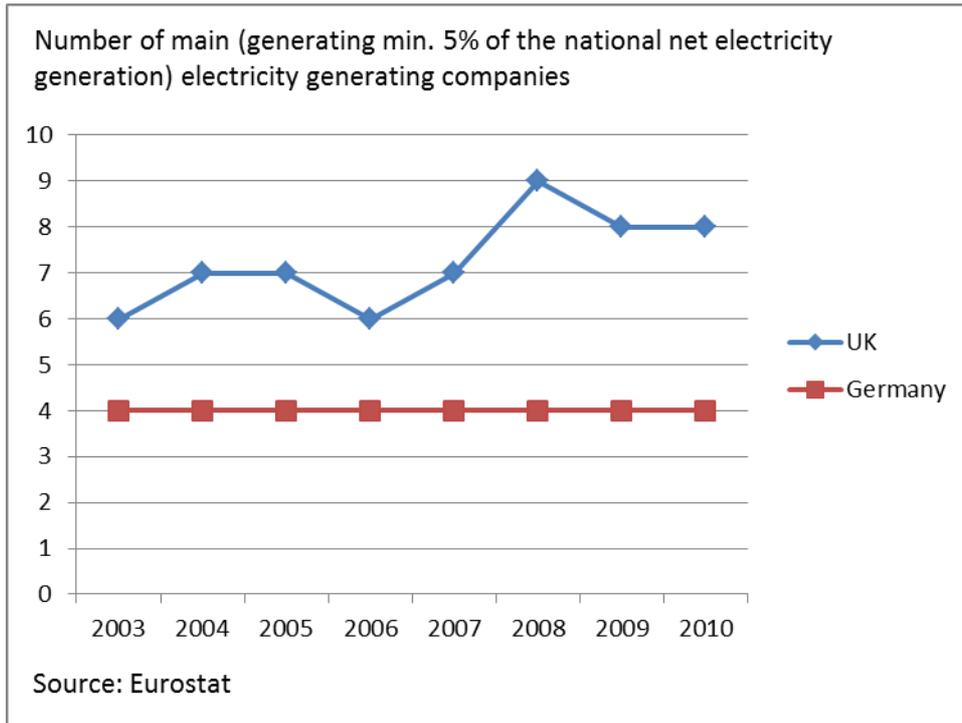


Figure 47 Number of major generators (2003-2010)

This suggests that ownership separation is crucial to facilitate entry, and legal separation is not enough to change the dynamics of the generation market.

However, the case studies described in detail earlier that this horizontal structure developed largely as a result of “artificial” factors, such as government intervention (the UK’s generation portfolio have been separated between 3 companies right at the beginning of the reforms) and mergers.

### 2.3.1.2 Distribution-supply

Data on the supply levels incumbents’ market shares are available from DECC<sup>350</sup> (incumbent electricity suppliers) and the Bundesnetzagentur<sup>351</sup> (default vs. other

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<sup>350</sup> DECC, ‘Quarterly domestic energy customer numbers’ available at: <https://www.gov.uk/government/statistical-data-sets/quarterly-domestic-energy-price-stastics> accessed at: 15/06/2014

home suppliers<sup>352</sup>). Starting with the UK, the graph below shows that the incumbent suppliers' market shares have been falling significantly after the compulsory legal separation (which in some cases went further to ownership separation) of the distribution and supply businesses. This could mean that ordering stricter vertical separation led to the incumbents' market share loss.

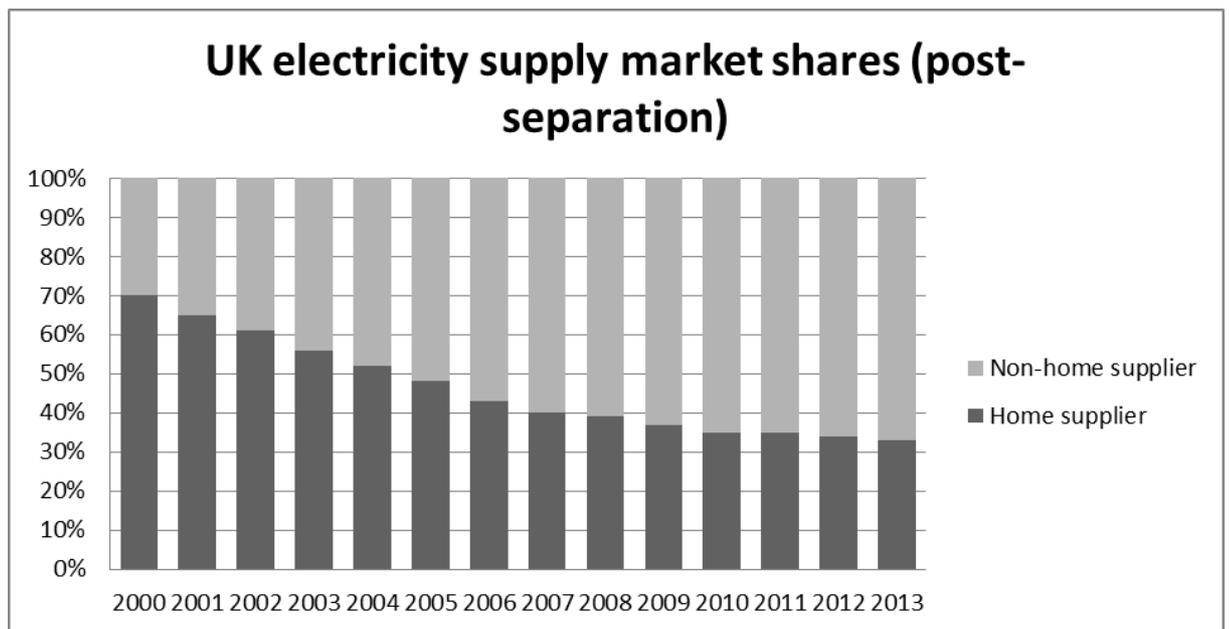


Figure 48 UK electricity supply market shares (2000-2013)

This argument could be strengthened by the analysis of Davis and Waddams, who - through the assessment of supply market shares between 1998 and 2007, the period where half of the 14 RECs were still integrated half carried out ownership separation – show that in those areas where the supplier remained integrated by means of ownership with the distributor the incumbent managed to retain a higher

<sup>351</sup> Data has been extracted from the German regulator's annual reports, available at: [http://www.bundesnetzagentur.de/cln\\_1421/EN/General/Bundesnetzagentur/Publications/publications\\_node.html](http://www.bundesnetzagentur.de/cln_1421/EN/General/Bundesnetzagentur/Publications/publications_node.html) accessed: 15/06/2014

<sup>352</sup> The overwhelming majority of the customers fall in this category, although they are only responsible for the minority of the total electricity consumption.

market share than those who carried out ownership unbundling on a voluntary basis.<sup>353</sup>

Moving on to the country having a tendency for weaker separation, Germany, the paper only assesses the post-2007 data (before that the non-incumbent suppliers market share was insignificant). After carrying out legal separation (2007), the incumbents' market shares started to decline:

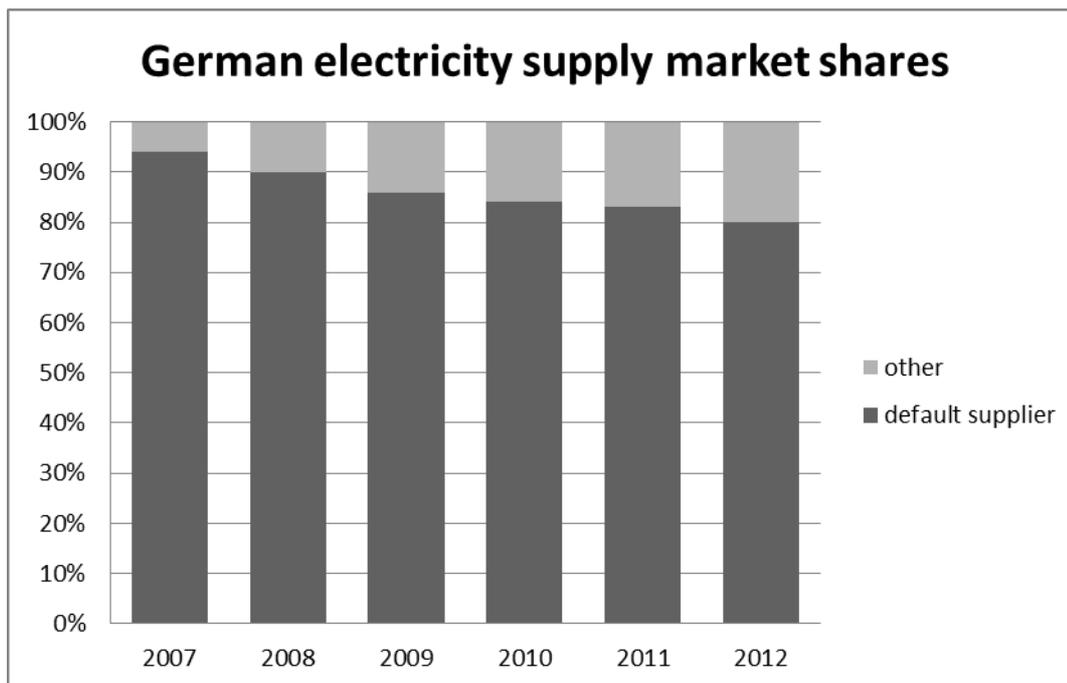


Figure 49 Germany electricity supply market shares (2007-2012)

At the same time even after 6 years the incumbents' market share only declined to about 80%, while in the UK (see below) the incumbents' market share was below 70% before legal separation was made compulsory. This would suggest that the examples cannot robustly suggest alone that vertical separation is necessary and access regulation is insufficient (or an inferior solution). However, it takes time for

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<sup>353</sup> Stephen Davies, Catherine Waddams Price, 'Does Ownership Unbundling Matter? Evidence from UK

Energy Markets' 2007 (Nov-Dec) *Intereconomics*, 301

competitors to get a grasp and the UK has clearly been in better position for this especially before 2005.

It has been presented that the UK started restructuring long before Germany and maintained a much stricter unbundling policy (especially until the Energy Act of 2005 according to which legal separation of the distribution network has been carried out by 2007), and in the lack of vertical separation the German electricity system clearly suffered from access issues. The competition authority which was made responsible for the matter had to establish a separate branch to deal with electricity issues but still failed to address the issues adequately.

The early history of the Germany electricity reform underlines the importance of at least two more regulatory issues (besides vertical separation).

The first one is related to institutions. No regulatory solution can perform adequately, if it is not enforced in the proper manner. This matter was especially visible in the early stages of the German electricity reform. In the UK, the major steps of the reform were carried out by the Government. As a starting point, the sector has been restructured but also the licences obligated the privatised companies to follow the established rules in the future. The regulator's task was to monitor the operation of the sector and to carry out other regulatory functions determined by the government. In Germany, however, the government did not restructure the market. Laws have been enacted ordering some restructuring but there was no enforcement; thus, it remained almost virtual. On top of all there was no regulatory authority which should have enforced the laws, that includes the structural changes prescribed as well. In contrast to the UK, far more duties would have been conferred to the regulatory authority. Accordingly, the nonexistence of such an authority played its part in achieving the worst results among the four sectors concerned.<sup>354</sup>

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<sup>354</sup> See the starting point, the 2007 market share data.

The lack of a regulatory authority was a shortcoming heavily connected (and leads towards) to the problem of using nTPA. One reason for choosing nTPA was that, in adopting this system, setting up a regulatory authority was not essential which is the second issue. Although there are arguments for nTPA stating that it better suited to the German industry, as negotiations have taken place between two-two associations of the counter interested parties which may have reduced the imbalance of the parties, nTPA is clearly a weak and ineffective tool for arranging access. That is why the possibility of choosing an nTPA system was withdrawn in 2003. The fact, that Germany was the only EU country choosing nTPA also implies that this was an extreme option.<sup>355</sup>

### **2.3.2 Telecommunications**

In telecommunications there is only one monopolistic element, which is the local loop. Data on the incumbents' market shares are available from Ofcom (BT broadband)<sup>356</sup> and the Bundesnetzagentur (DT broadband)<sup>357</sup>.

As it has been described in the case studies, there have been quite a few issues in terms of access in both countries. The Deutsche Telecom price squeeze case is a classic example of insufficient access: the company misused its monopoly position

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<sup>355</sup> Jamasb, Pollitt (2005) 4-5

<sup>356</sup> Post 2007 data: Ofcom, 'BT and Sky had the highest growth in broadband market share in 2012' available at: [stakeholders.ofcom.org.uk/market-data-research/market-data/communications-market-reports/cmr13/uk/UK-5.34](http://stakeholders.ofcom.org.uk/market-data-research/market-data/communications-market-reports/cmr13/uk/UK-5.34) accessed at: 15/06/2014,

Pre-2007: Ofcom, 'Impact of the Telecoms Strategic Review Evaluation' available at: [stakeholders.ofcom.org.uk/binaries/telecoms/policy/bt/tsr\\_statement.pdf](http://stakeholders.ofcom.org.uk/binaries/telecoms/policy/bt/tsr_statement.pdf) accessed at: 15/06/2014, p. 40

<sup>357</sup> Bundesnetzagentur, 'Annual Report 2012 Energy, communications, mobility: shaping expansion together' available at: [http://www.bundesnetzagentur.de/SharedDocs/Downloads/EN/BNetzA/PressSection/ReportsPublications/2013/AnnualReport2012.pdf?\\_\\_blob=publicationFile&v=3](http://www.bundesnetzagentur.de/SharedDocs/Downloads/EN/BNetzA/PressSection/ReportsPublications/2013/AnnualReport2012.pdf?__blob=publicationFile&v=3) accessed at: 15/06/2014, p. 75

in respect of the local loop to suppress its competitors' business. However, it has been shown at "The pros and cons of vertical integration" that - besides competition - there are other concerns relevant to the matter. In Germany, respect of private rights and solving transaction problems that could set back the spread of new investment in super-fast networks seem to be highly appreciated.

Most importantly – from the perspective of this research – it has been discussed in detail that the UK has chosen to introduce some light form of vertical separation (functional separation) in BT's structure in order to eliminate interest in discriminating competitors' access to monopolistic facilities. According to Cadman an even lighter form of vertical separation (accounting separation) would have been insufficient to address discriminatory practices that are not price but quality related, while ownership separation would have been too difficult, and errors would have been costly.<sup>358</sup> But are these issues reflected in the market shares of the incumbents?

The comparison of the recent years' trends show that Deutsche Telekom's market share (see graphs below) is normally around 20% higher than BT's. This is in line with the expectation of higher shares arising out of less strict separation since in Germany there is only accounting separation between the local access services division and the rest of the company, while in the UK where there is functional separation.

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<sup>358</sup> Cadman (2010) 369, 371

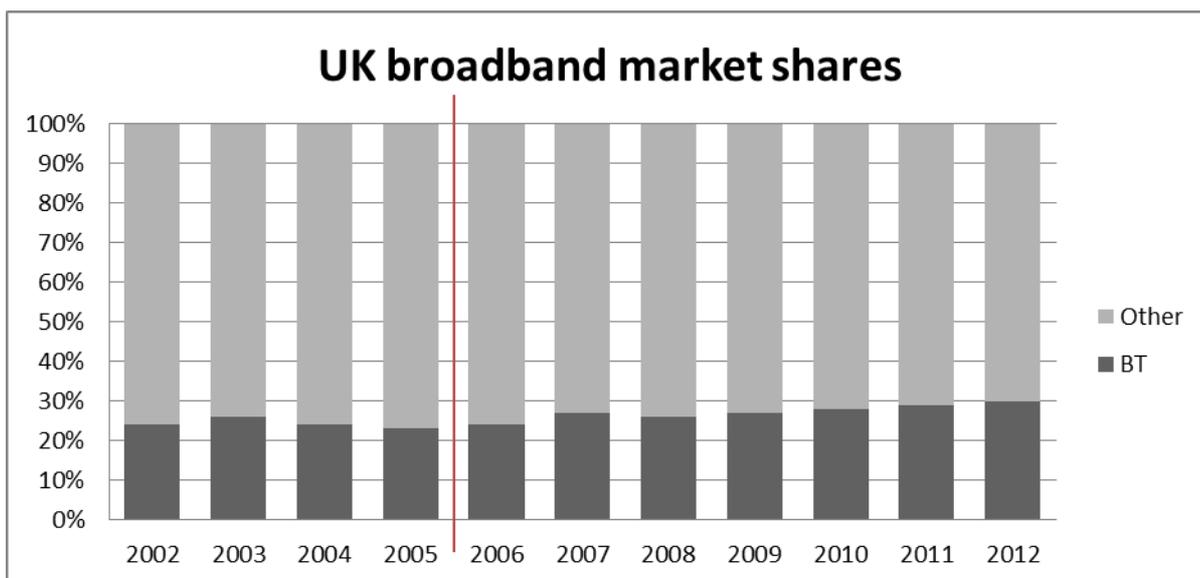


Figure 50 UK broadband market shares (2002-2012)

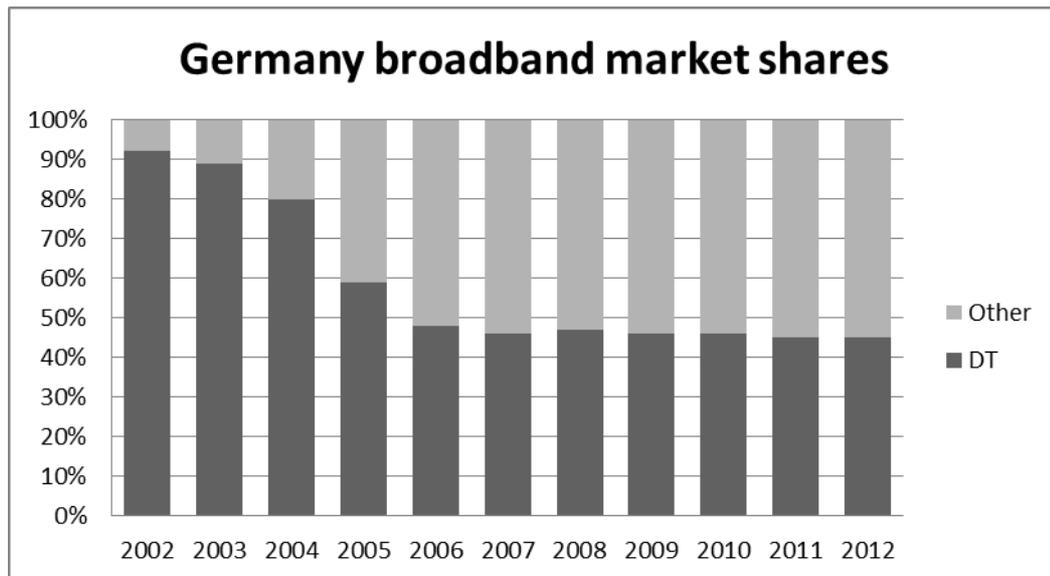
However, it is not clear at all whether the incumbent's lower market share is a consequence of the separation. BT's market shares did not fall after the separation of Openreach, but there is rather a weak tendency of market share growth.

In 2009, in its evaluation of the Strategic Review (2005) Ofcom seemed to suggest that rise in number of the unbundled local loops is connected to the separation of Openreach from BT.<sup>359</sup> Indeed, the rise from less than 200 000 lines in 2005 to over 5.5 million lines by the end of 2008 seems remarkable, and the number grew further to 9 million by 2013.<sup>360</sup> However, by 2013 the number of unbundled local loops exceeded 9 million in Germany<sup>361</sup> as well, so there is no evidence that stronger vertical separation would have affected local loop unbundling either.

<sup>359</sup> Ofcom, 'Impact of the Strategic Review of Telecoms' available at: [http://stakeholders.ofcom.org.uk/binaries/telecoms/policy/bt/impact\\_srt\\_fulldoc.pdf](http://stakeholders.ofcom.org.uk/binaries/telecoms/policy/bt/impact_srt_fulldoc.pdf) accessed 10/08/2014

<sup>360</sup> Ofcom, 'What is Local Loop Unbundling?' available at: <http://ask.ofcom.org.uk/help/telephone/LLU> accessed 15/06/2014

<sup>361</sup> Deutsche Telekom, 'Annual Report 2013' available at: <http://www.annualreport.telekom.com/site0413/en/management-report/development-of-business-in-the-operating-segments/germany/index.php?page=91> accessed 15/06/2014



**Figure 51 Germany broadband market shares (2002-2012)**

Besides, the graph concerning Germany above shows that Deutsche Telekom’s market share has been falling although the company did not carry out any separation (besides basic accounting separation) between the network and the connected competitive elements.

**2.3.3 Cross sectorial comparison- is vertical separation less important in the telecommunications than in the electricity sector?**

Ultimately, the assessment of the electricity sectors has found that the supply incumbents’ market shares have been declining after stricter separation has been introduced, both in the UK and in Germany. Furthermore, in the generation level market concentration has been declining steadily in the UK where ownership separation has been carried out while in Germany in the lack of ownership separation the market got more concentrated.

However, comparing the UK telecommunications incumbents’ stable market shares to the German telecommunications incumbent’s declining broadband market shares do not suggest an exclusive link between strong separations leading to the incumbents’ market share loss (in telecommunications).

It is helpful to compare electricity to telecommunications, since they are different in many respects, while there is network element in both.

In the electricity sector, the network is still a true natural monopoly, while in telecommunications the network-based services are more and more contested by different other infrastructures (cable and some extent mobile), and different technologies which is a great advantage from the perspective of competitiveness. Voice telephony is under competitive pressure from mobile telephony, applications such as Skype and cable operators as well. There are no such substitutes for electricity. The telecommunications (at least the broadband) market is growing while electricity is not.

It is likely that some of these techno-economic differences between the telecommunications sector and electricity are responsible for the different correlation between separation and market shares in the two sectors concerned.

Concerning the original question: is the different EU attitude towards vertical separation in electricity and telecommunications, it can be established that if techno-economic factors can substitute vertical separation in achieving market share loss on the incumbents side in telecommunications, but not in electricity – as the analysis above suggests – then the different treatment is justified.

This furthermore implies that:

- In the telecommunications sector if in a certain case, the concern is market power due to the incumbents' high market share, simply ordering more separation may not necessarily solve the issue.<sup>362</sup> In other words stricter separation may not necessarily reduce the incumbents' dominant position.

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<sup>362</sup> BT's market share did not fall after the separation.

- There should be more scope for less separation in telecommunications, which on the other hand may allow for more efficiency: forcing stricter and stricter unbundling may be counterproductive after a certain level.

## **Conclusion**

One of the key regulatory differences between the electricity and telecommunications reforms has been the use of vertical separation of the network. In the electricity sector vertical separation is used extensively in order to make sure that the network monopoly is contained and market power will not be leveraged to the competitive levels and providing better access for competitors. In contrast, the telecommunications reforms tend to include access regulation only, which is a weaker tool for providing access to the network that is essential for competitors to provide their services. The chapter assesses whether this difference in the regulations is justified.

The chapter is divided into two parts. The first part looks at the theory while the second part looks at the practical experiences in two Member States with very different attitude towards vertical separation: the UK (where vertical separation has been carried out in the electricity and more recently in the telecommunications sector as well) and Germany (where the electricity networks have only been separated after EU law required it while the telecommunications incumbent has not been separated).

The theoretical assessment in Part 1 suggests that stronger separation between vertically related monopolistic and competitive levels of a production chain in generally should facilitate access. There is a potential for loss of efficiency as a result of vertical separation. Different means (degrees) of vertical separation have

been invented in order to preserve efficiencies while facilitating access as well. However, access in itself (i.e. disregarding the issue of efficiency) should be served better by fuller separation.

Part 2 of the paper assessed the incumbents' market shares in the UK and in Germany in the sectors concerned in order to see whether this logic can be shown to work in practice the same way. The market share data presented in chapter 1 is assessed here in the light of detailed case studies of vertical separation in the countries concerned. This analysis found decreasing market shares after stricter separation in the electricity sector but not in the telecommunications sector, which suggests that there is different importance to vertical separation in the two sectors, which justifies the differences in the policy.

## **IV. Chapter 3: Towards multi-sector regulators: a multi-step approach**

### **Abstract**

One of the main legal differences between the electricity and telecommunications reforms in the UK and Germany is that of the institutional setup of the regulatory authorities. In the UK there are two separate regulators for energy (electricity and gas) and telecommunications (electronic communications); in Germany one regulatory authority is responsible for the regulation of both sectors as well as a number of other sectors. It can be established that currently, the UK operates with a single sector regulator compared to Germany's multi-sector regulator. The history of the regulatory authorities however, tells somewhat a different story: regardless of their respective differences, there is a tendency to lean towards multi-sector regulators in both countries. In certain EU countries, this tendency is even more obvious, having led to the merger between all sector regulators with the Competition Authority as well. This raises several questions: what is the reason behind this trend of merging regulators? Why did EU countries start merging regulators only recently? Multi-sector regulators have been created for some time in Third World countries therefore, they cannot be considered as a new 'invention'. Are multi-sector regulators superior – so the UK could learn from Germany in setting up a multi-sector regulator as well?

In answering these questions, first the subjects of the comparison must be described: the evolution of the regulatory institutions in the UK and Germany. In the next step, the paper provides a framework of key institutional issues on which the assessment is based. The third step is based on the previous two; an assessment of how the different types of the regulators (single vs. multi-sector regulators) influence the key institutional variables, in other words the advantages and disadvantages of single and multi-sector regulators.

Answering the question of whether multi-sector regulators are superior, the analysis of this paper suggests that changing the institutional setup will result in changes concerning the key variables, however, it cannot be stated that one model would be superior overall. This leads to the question of why there is a trend of merging regulators in the concerned countries and if the UK could “learn” from Germany and create a similar “super regulator”, it would be beneficial for the UK. To answer this question, the fifth part analyses the changes in the key institutional factors that arise out of changing the institutional setup (the merging of regulators) in terms of their dynamics. Analysis suggest that while single and multi-sector regulators have pros and cons, the pros can be maximised and the cons minimised, by the creation of single sector regulators before merging them as markets mature. According to the sixth part of the chapter, if the mergers are timed correctly (when benefits of a merger are clearly identifiable), the changes they bring will follow the changing institutional needs of the developing sectors nevertheless, mergers between energy and telecommunications regulators in the UK are probably not beneficial thus far due to a lack of evidence showing positive synergy from regulatory mergers.

## **1. Introduction**

Most regulators in the EU are in their infancy, created only between 1996 and 1998.<sup>363</sup> However, tendencies of the merging of regulators are already underway. In the UK, Offer and Ofgas merged to become Ofgem. Oftel, the Radiocommunications Agency, the Broadcasting Standards and the Independent

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<sup>363</sup> Damien Geradin, ‘Institutional aspects of EU regulatory reforms in the telecommunications sector: an analysis of the role of national regulatory authorities’ (2000) 1 *Journal of Network Industries*, 5, 6

Television Commission merged to become Ofcom.<sup>364</sup> These bodies are still closely related regulators.

Germany took a step even further: the expansion of the German regulator's competencies has led to the establishment of a regulator – the Bundesnetzagentur – regulating the electricity, gas, telecommunications, postal and railway sectors.

The Netherlands took even more advanced measures, establishing the Netherlands Authority for Consumers and Markets on the 1st April 2013 by merging the Netherlands Consumer Authority, the Netherlands Competition Authority and the Netherlands Independent Post and Telecommunication Authority (OPTA).<sup>365</sup> Just a few months later, Spain had created the National Markets and Competition Commission (Comisión Nacional de los Mercados y la Competencia). The new authorities were created by the integration of the Competition Authority with other numerous sector regulators, creating a hybrid authority enforcing competition rules and regulating telecommunications, energy, railway, postal, audio-visual issues as well as airports.<sup>366</sup>

These examples highlight that the question of whether (or in what circumstances) creating multi-sector regulators is beneficial has become highly topical in the EU. At the same time, literature on merging regulators in developed countries is rather underdeveloped. While there is a literature on creating multi-sector regulators in

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<sup>364</sup> Jacint Jordana, David Levi-Faur, 'Exploring Trends and Variations in Agency Scope' 2010 (11) Competition & Reg. Network Indus., 343

<sup>365</sup> CF The Netherlands Competition Authority's press release: 'Green light for the Netherlands Authority for Consumers and Markets' available at [http://www.nma.nl/en/documents\\_and\\_publications/press\\_releases/news/2013/05\\_13\\_green\\_light\\_for\\_the\\_netherlands\\_authority\\_for\\_consumers\\_and\\_markets.aspx](http://www.nma.nl/en/documents_and_publications/press_releases/news/2013/05_13_green_light_for_the_netherlands_authority_for_consumers_and_markets.aspx) accessed: 28/02/2013

<sup>366</sup> ECN Brief, 'Spain: Creation of the new National Markets and Competition Commission, CNMC' available at: [http://ec.europa.eu/competition/ecn/brief/03\\_2013/es\\_cnmc.pdf](http://ec.europa.eu/competition/ecn/brief/03_2013/es_cnmc.pdf), accessed at: 15/03/2014

developing countries, cases in the EU are substantially different. In developing countries multi-sector regulators are mainly created due to issues regarding economies of scales; creating separate regulators is not financially viable, they lack personnel with the expertise in regulation, etc. In the EU, the reason behind merging regulators is clearly different. It cannot be argued that in the UK, operating separate regulators is not viable since different regulators have been established first and have only merged later on. It also seems unlikely that Germany created a multi-sector regulator as a result of financial constraints or due to the lack of experts.

This paper aims to analyse this new trend and assess the trade-offs when merging regulators and give guidance on how benefits can be maximised. Ultimately, this chapter seeks to answer whether the UK could learn in this aspect from Germany, i.e. whether the creation of a similar multi-regulator would be beneficial in the UK.

It has to be noted that the institutional setup, is only one of the numerous regulatory variables that affect the outcome of reforms. There are other important regulatory features that have definite influence on the sectors however, yet this does not mean that the multi-sectoral nature cannot be analysed.

This paper suggests that the multi-step approach; creating single sector regulators and merging them when there are clear synergies arising from the unification to be most beneficial. Since synergies resulting from the union between Ofgem and Ofcom are currently questionable at the present moment, we cannot make a case for following Germany's example as of now given the current evidence.

## **2. Types of Mergers of Regulatory Authorities**

The EU rules concerning national regulators are quite flexible. Generally speaking the focus is on making sure that these bodies are accountable and independent. In terms of other features, the EU Member States are largely free to do as they

wish.<sup>367</sup> It is therefore not surprising that there is a wide variety of national regulators in the EU.<sup>368</sup> Based on different features, regulatory authorities can be grouped in many ways. In this paper, the number of sectors regulated by the authority is the key variable under examination.

Combining regulators is a new regulatory trend in the EU: so far Germany, the Netherlands and Spain have opted for this setup, the classic examples for this regulatory arrangement are the State Public Utility Commissions in the USA<sup>369</sup>. However, there are precedents for the creation of multi-sector regulators in many Third World countries as well.

The Dutch and Spanish examples also involve merging the Competition Authority with the regulators as well. This type of institutional mergers would need to take into account many additional issues<sup>370</sup>, such as ex-ante and ex-post regulation as well as the relationship of sector regulators and competition authorities<sup>371</sup> in general.<sup>372</sup> The inclusion of these issues would likely steer the focus of research from regulatory institutions towards the relationship between regulators and competition authorities, which is already a well-studied subject.<sup>373</sup> For the above

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<sup>367</sup> Geradin (2000) 18

<sup>368</sup> Ibid 21

<sup>369</sup> Anders Henten, Rohan Samarajiva, William Melody, 'Designing next generation telecom regulation: ICT convergence or multi-sector utility?' 2003 (5) Info,30

<sup>370</sup> CF Damien Geradin, Robert O'Donoghue, 'The concurrent application of competition law and regulation: the case of margin squeeze abuses in the telecommunications sector' (2005) 1 (2) Journal of Competition Law and Economics, 355, 409-424

<sup>371</sup> Larouche (2004) 282

<sup>372</sup> Maher M. Dabbah, 'The relationship between competition authorities and sector regulators' (2011) 70 (1) Cambridge Law Journal, 115

<sup>373</sup> Dabbah (2011) 113

mentioned reasons, this specific type of regulatory merger is out of the scope of this research: the paper only concerns regulatory authorities.

It has to be noted at this point that the research is not simply about comparing regulatory authorities, but rather about the process of merging these authorities. The two types of regulatory mergers considered have been modelled on the UK's and Germany's history.

## **2.1. Single sector regulators**

A single sector regulator would mean that one regulator deals with one sector only. However, the picture is a more complex as sectors can be different in different countries and are subject to change overtime. This study essentially considers the process leading to the creation of the UK's energy and telecommunications regulators as described below:

### **Ofgem**

As part of the electricity reform – within the framework of the Electricity Act 1989 – the Conservative government established a Director General of Electricity supply, supported by the Office of Electricity Regulation (OFFER) office which was essentially the regulator responsible for the electricity sector.

After the Utilities Act 2000, OFFER (the electricity regulator) and OFGAS (the gas regulator) merged to OFGEM. Thereby in a sense a multi-sector regulator has been created although, it is still only responsible for only two sectors which are similar to

each other and altogether constitute the energy industry.<sup>374</sup> Hence, this paper considers Ofgem a single-sector regulator.<sup>375</sup> After the merger, Ofgem became the authority with the main role in the economic regulation of the energy sector.<sup>376</sup>

## **Ofcom**

In 1984 according to the Telecommunications Act Oftel became the economic regulator of the telecommunications sector.<sup>377</sup> The Act establishes the Director General of Telecommunications, who may appoint staff thereby creating an office.<sup>378</sup>

Some suggest that regulation in the UK's telecommunications sector became less and less important as competition developed, the regulator became unnecessary and some argued that Oftel should become obsolete.<sup>379</sup> Such proposals nonetheless seem to be unrealistic in the telecommunications sector (as well as in

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<sup>374</sup> David Coen, 'Business–Regulatory Relations: Learning to Play Regulatory Games in European Utility Markets' (2005) 18 *Governance: An International Journal of Policy, Administration, and Institutions* 397

<sup>375</sup> And also because of the difference in the regulatory scope between Ofgem and the Bundesnetzagentur.

<sup>376</sup> Roggenkamp et. al. (2007) 1179

<sup>377</sup> Coen (2005) 379

<sup>378</sup> This reflects the UK tradition of appointing a single person instead of an institution. The Utilities Act 2000 was to challenge this convention as the establishment of a chairman and at least two board members were proposed to lead the authority, but this change was not implemented as part of the final Act.

<sup>379</sup> Keith Boyfield, Tim Ambler, 'Do the UK Regulatory Agencies Provide Taxpayer Value?' 2004 London Business School Centre for Marketing Working Paper No. 04-902.1, 3

the electricity sector) and in 2003, instead of the simple closure of Oftel, Ofcom was created.<sup>380</sup>

Ofcom combined the duties of Oftel, the Radiocommunications Agency (which regulated the mobile sector together with Oftel), and the Broadcasting Standards and Independent Television Commission.<sup>381</sup> After the merger of these bodies, Ofcom became the regulator responsible for fixed line and mobile telecommunications, TV and radio sectors, postal services in addition to the wireless sectors.<sup>382</sup>

The UK media already called Ofcom a “Super-regulator”,<sup>383</sup> however it still regulates some very closely related businesses – and also quite large ones – collectively known as electronic communications. For this reason and since we compare Ofcom to the Bundesnetzagentur which regulates electricity, gas, telecommunications as well as rail and post, Ofcom is considered to be a single-sector regulator.

## 2.2 Multi-sector regulator

As presented above, what is called as a single sector regulator is in fact already a merged entity. There is a difference between such a single sector regulator and what is defined by this paper as a multi-sector regulator, where one regulatory authority is responsible for essentially all the regulated sectors. This category was

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<sup>380</sup> Coen (2005) 379

<sup>381</sup> Lloyd, Mellor (2003) 51

<sup>382</sup> OFCOM, available at: <http://www.ofcom.org.uk/about/> accessed: 21/09/2012

<sup>383</sup> BBC, ‘Super-regulator’ Ofcom launches’ 2003 available at: <http://news.bbc.co.uk/1/hi/entertainment/3354093.stm> accessed 20/09/2012

modelled after the German regulatory authority (the Bundesnetzagentur), which also went through considerable changes.

## **Bundesnetzagentur**

Before the reforms, the Deutsche Bundespost was under the regulatory and political control of the Federal Ministry for Postal Services and Telecommunications (Bundesministerium für Post und Fernmeldewesen).<sup>384</sup>

EU law required the separation of regulatory functions and ownership in the telecommunications sector therefore in Germany, the Regulierungsbehörde für Telekommunikation und Post (RegTP) was created as a regulator through the Telecommunication Act of 1996. The establishment of RegTP was a pioneering step in the history of the German public administration; it marked the starting point of regulation.<sup>385</sup>

From the 2000s the authority gained more competencies and ended up being a multi-sector regulator.<sup>386</sup> RegTP was renamed to Bundesnetzagentur on the 13th of July 2005, as it became responsible for the regulation of the electricity, gas and railway sectors as well.<sup>387</sup>

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<sup>384</sup> Burkard Eberlein, Edgar Grande, 'Regulation And Infrastructure Management: German Regulatory Regimes And The Eu Framework' (2000) 1 German Policy Studies available at: <http://www.spaef.com/file.php?id=813> accessed: 14/09/2012, 45

<sup>385</sup> Martin Lodge, 'Varieties of Europeanisation and the National Regulatory State' 2002 (17) Public Policy and Administration 56

<sup>386</sup> Jordana, Levi-Faur (2010) 343

<sup>387</sup> Bundesnetzagentur, 'The Agency' available at: [http://www.bundesnetzagentur.de/cIn\\_1912/EN/FederalAgency/TheAgency/TheAgency\\_node.html](http://www.bundesnetzagentur.de/cIn_1912/EN/FederalAgency/TheAgency/TheAgency_node.html) accessed: 16/09/2012

### 3. Key institutional issues

In order to be able to evaluate the effect of a regulatory merger, a set of indicators is needed; there are numerous features based on which regulators can be evaluated. The key institutional issues considered here are the ones that are influenced by the mergers of the institutions. Among these, there are institutional features of major importance: independence, accountability, capture, costs (efficiency), and some others that have secondary importance (compared to the ones that have been mentioned already) but are also heavily affected by regulatory mergers.

Ultimately the following 5 features are going to be used:

- Independence
- Accountability
- Regulatory capture
- Costs
- Regulatory quality

The following part concerns these features in general. Besides providing a theoretical basis of the key institutional factors for the forthcoming analysis, the purpose of this part of the paper is to show that these factors cannot be interpreted as black and white and should not be taken to the extremes. For example, independence is very important, but has to go hand in hand with accountability. Similarly, capture by the industry has to be avoided, but without links to the industry it is hard to see how a regulator can make quality decisions.

There are also cross-links between these features, so designing the authority requires a trade-off between them; for an optimal design a careful balance is needed.

### 3.1 Independence

Independence can be interpreted in a broad and a narrow way. A broad interpretation of independence means freedom from being affected by both the political sphere and the industry (as used by Hancer et. al.<sup>388</sup> or Geradin<sup>389</sup>). A narrow interpretation (as used here) means independence from the political sphere only.

Before the reforms, the concerned sectors were nationalised in most cases, so they were under direct governmental supervision – regulation was implicit. The idea behind the reforms is the creation of competition and thereby more efficient sectors, benefitting consumers through more competition<sup>390</sup>, lower than regulated or monopolistic prices thereby, achieving higher consumer surplus. Liberalisation and privatisation are requisites of creating competition, but at the same time they eliminate the possibility of such “implicit” regulation. Competition – that is aimed to be the new organising force that ultimately replaces implicit regulation – takes time to develop in general, while on some vertical levels (as they are still natural monopolies)<sup>391</sup> introducing competition is not even the intention. Therefore, there

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<sup>388</sup> Leigh Hancher, Pierre Larouche, Saskia Lavrijssen, ‘Principles of good market governance’ (2003) 4 (4) *Journal of Network Industries*, 355, 360

<sup>389</sup> Damien Geradin, ‘Development of European regulatory agencies: what the EU should learn from American experience’ (2005) 11 *Columbia Journal of European Law*, 1, 28, Geradin (2000) 11

<sup>390</sup> The competitive price is likely to deliver the most consumer surplus on the long run. Too low prices look good on the short run, but they can impede investments and new entry which can hit back by leading to high prices on the long.

<sup>391</sup> Coen (2005) 376

is a continuing need for regulation. As a matter of fact the reforms brought about the rise of the 'regulatory state'.<sup>392</sup>

In terms of the institutional side of regulation, the government could continue regulating the sectors after the privatisation in an explicit way (in opposition to the implicit regulatory role before the privatisation), but this is a rather problematic solution.

Firstly in both the electricity and telecommunications sectors, competition is meant to be encouraged by separating the monopolistic levels from potentially more competitive ones. Governments, however, often had (have) ownership interest in firms active on the competitive levels as well. Competing with a state owned entity is potentially unfair, as the government have powers that can be used to influence the market, as well as an incentive to promote state owned enterprises. This however, harms competition which should be the driving force of efficiency gains – the reason for reforms. In order to prevent governments from abusing their regulatory power by promoting the companies in which they have ownership interest and place other firms into a competitive disadvantage, separate regulatory authorities need to be created who are independent from governments<sup>393</sup> and therefore does not share their anti-competitive interests.<sup>394</sup>

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<sup>392</sup> Pierre Larouche, 'Coordination of European and Member State regulatory policy. Horizontal, vertical and transversal aspects' (2004) 5 (3-4) *Journal of Network Industries*, 277, 277, Burkard Eberlein, 'Institutional Change and Continuity in German Infrastructure Management: The Case of Electricity' (2000) 9 *German Politics*, 89 Coen (2005) 375, Burkard Eberlein 'Beyond delegation: transnational regulatory regimes and the EU regulatory state' 2005 (12) *Journal of European Public Policy* 104, Colin Scott, 'Accountability in the Regulatory State' (2000) 27 (1) *Journal of Law and Society, Voices, Spaces, and Processes in Constitutionalism*, 38, 44

<sup>393</sup> CF Larouche, et. al. (2012) 16

<sup>394</sup> Arjan Geveke, 'Improving Implementation by National Regulatory Authorities' 2003 (3) *Eipascope* available at: [http://aei.pitt.edu/2592/1/scop\\_3\\_3.pdf](http://aei.pitt.edu/2592/1/scop_3_3.pdf) accessed 24/08/2012 26

Secondly, even if the sector is fully privatised additional issues are likely to arise. From time to time the government has an incentive to intervene in the market in a populist way which is likely to be detrimental to consumers on the long run. Such actions can range from forcing prices down as a method of campaigning for votes, or rewarding its supporters with ministerial seats, making the regulation more political and less expertise based. As the government has an incentive for making populist interventions, it cannot make a truly credible commitment towards the industry. This raises the risks factor of doing business in the industry, which ultimately means that it operates with higher costs (less efficiency).

According to Majone, the outmost benefits of regulating a sector through a regulator (vis a vis a government) arise out of its “specialised knowledge and the possibility (because of independence from partisan political considerations) of making credible policy commitments”.<sup>395</sup>

By assigning the task of regulation to a separate regulator, the government’s possibilities for such politically motivated interventions are reduced by a more technocratic organisation. The use of an independent regulator enhances the objectivity and stability of the regulation, which boosts investor confidence.<sup>396</sup>

Additionally, while a government (or even a ministry) has multiple functions independent sector regulators are created for a rather narrow function: implementing regulation. In order to prove the necessity of their existence these authorities have an incentive to meet the expectations set up towards them.<sup>397</sup>

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<sup>395</sup> Giandomenico Majone, ‘The Agency Model: The Growth of Regulation and Regulatory Institutions in the European Union’ available at: [http://aei.pitt.edu/786/1/scop97\\_3\\_2.pdf](http://aei.pitt.edu/786/1/scop97_3_2.pdf) accessed: 10/10/2014, 1

<sup>396</sup> Tim Schwarz, David Satola ‘Telecommunications Legislation in Transitional and Developing Economies’ (2000) World Bank Technical Paper NO. 489, p. 25

<sup>397</sup> Coen (2005) 377

The above arguments, imply that the government is better off by regulating the industry via an independent regulator; parallel to enacting regulation, setting up a separate regulatory authority would be more constructive.

### 3.2 Accountability

Accountability can be defined in different ways,<sup>398</sup> according to Philip “A is accountable with respect to P when some individual, body or institution, Y, can then require A to inform and explain/justify his or her conduct with respect to M”.<sup>399</sup>

Accountability has three key elements:

- Providing an explanation for an action,
- Being exposed to scrutiny, and
- The possibility of being reviewed by an independent entity.<sup>400</sup>

Accountability is another key input of quality regulation.<sup>401</sup> Another reason for creating separate regulatory authorities is that they tend to be more accountable than ministries.<sup>402</sup>

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<sup>398</sup> Mark Philp, 'Delimiting democratic accountability' (2009) 57(1) Political Studies, 29

<sup>399</sup> Ibid 32

<sup>400</sup> House of Lords - Select Committee on the Constitution, 'The Regulatory State: Ensuring its Accountability'

6th Report of Session 2003-04, available at:

<http://www.publications.parliament.uk/pa/ld200304/ldselect/ldconst/68/68.pdf> accessed 19/03/2014, para 9.

<sup>401</sup> Larouche et. al. (2012) 10

<sup>402</sup> Tony Prosser, The regulatory enterprise: government, regulation, and legitimacy (OUP 2010) p. 9

Accountability is necessitated by the potential conflict of interest between the regulator who is responsible for regulating the sector and consumers who are supposed to be the beneficiaries of regulation by working to achieve the aims set for it. Defining the aims of the regulator is therefore crucial, at the same time it can be a complicated issue as the following examples suggest.

The Utility Act of 2000 defined the “principal objective” of Ofgem as to “protect the interests of consumers in relation to gas conveyed through pipes, wherever appropriate by promoting effective competition”.<sup>403</sup> After the millennium – besides economic regulation – Ofgem started dealing with issues such as climate change, carbon reduction, security of supply etc. thereby gaining a much wider role than it had initially.<sup>404</sup> This was reflected in the changes made by the Energy Act 2010, which concerned “interests of existing and future consumers (...) taken as a whole”. According to the act, this includes:

“(a) their interests in the reduction of electricity-supply emissions of targeted greenhouse gases; and

(b) their interests in the security of the supply of electricity to them.”

Defining the aims of the regulator is important from the perspective of accountability: they can be used as a benchmark to which the authority’s actions can be measured.

In 2010 there was a review of Ofgem as part of the Conservative led coalition government program. Ofgem was said to take up more and more functions and became unrecognisable in terms of scope. At the same time before the election, the Conservatives expressed their intention of turning Ofgem to a purely economic

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<sup>403</sup> Utilities Act 2000, s 4AA (1)

<sup>404</sup> The evolving role of Ofgem’ (2010) Utility Week, available at: [http://www.utilityweek.co.uk/news/news\\_story.asp?id=170841&title=The+evolving+role+of+Ofgem](http://www.utilityweek.co.uk/news/news_story.asp?id=170841&title=The+evolving+role+of+Ofgem) accessed: 20/09/2012

regulator separating its green, sustainable development and competition related functions.<sup>405</sup> However, the Review concluded that “wider public interest goals should remain embedded in Ofgem’s duties: it is right that Ofgem should consider trade-offs between economic and broader goals in all its decision making”.<sup>406</sup>

In terms of Ofcom, the regulatory tasks of the previously separate regulators were combined together. How the beneficiaries of Ofcom should be defined was widely debated. According to the Communications Act of 2003 the main duties of OFCOM are connected to two objectives: consumer interest and competition.

“3(1) It shall be the principal duty of Ofcom, in carrying out their functions;

(a) to further the interests of citizens in relation to communications matters; and

(b) to further the interests of consumers in relevant markets, where appropriate by promoting competition”<sup>407</sup>

There are plenty of notions that could have been used to describe the potential beneficiaries of Ofcom’s work such as audience, viewer, listener, user, customer etc.,<sup>408</sup> but the Act uses the terms: citizens and consumer. The wording has been discussed and changed a lot throughout the legislative process,<sup>409</sup> different

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<sup>405</sup> Paul Newton ‘The evolving role of Ofgem’ (2010) Utility Week, available at: [http://www.utilityweek.co.uk/news/news\\_story.asp?id=170841&title=The+evolving+role+of+Ofgem](http://www.utilityweek.co.uk/news/news_story.asp?id=170841&title=The+evolving+role+of+Ofgem) accessed: 20/08/2014

<sup>406</sup> Department of Energy and Climate Change, ‘Ofgem Review Final Report’ 2011 available at: <http://www.decc.gov.uk/assets/decc/11/meeting-energy-demand/energy-markets/2151-ofgem-review-final-report.pdf> accessed: 22/09/2012, 25

<sup>407</sup> Communications Act of 2003

<sup>408</sup> Sonia Livingstone, Peter Lunt, Laura Miller, ‘Citizens and consumers: discursive debates during and after the Communications Act 2003’ 2007 (29) Media Culture Society, 614

<sup>409</sup> Livingstone et al. (2007) 617-626

stakeholders argued for different wording.<sup>410</sup> The final outcome can be interpreted in different ways, what matters the most is Ofcom's interpretation of the wording:

"As consumers, we participate in the marketplace, buying or using goods and services. In short, we focus primarily on what is good for ourselves as private individuals or businesses. Whereas, as citizens, we participate in society, which includes the marketplace, but also extends far beyond it. Citizens are free to exchange goods and services, but can additionally be impacted by a whole range of social, cultural and political activities that are not the subject of commercial contracts."<sup>411</sup>

Arguably, the best way to understand the relations between these parties and to show how the regulator be incentivised to work to achieve the aims set for it, is by using a principal-agent model. However some argue that it is overly simplistic,<sup>412</sup> for example problems may arise when dealing with multiple principals or agents.<sup>413</sup> The principal-agent model is used by many disciplines (law, economics, sociology etc.) to model relationships of parties with (1) conflicting interests, and (2) when asymmetric information exists between both parties.<sup>414</sup> The model assists in understanding why accountability is essential for an effective institutional setup. According to this model, the regulator has both the incentive to 'trick' its principal

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<sup>410</sup> Ibid 626

<sup>411</sup> Ofcom, 'Citizens, Communications and Convergence - A summary of stakeholder responses, and our next steps' 2010 available at: [http://stakeholders.ofcom.org.uk/binaries/consultations/citizens/statement/Citizen\\_State\\_ment.pdf](http://stakeholders.ofcom.org.uk/binaries/consultations/citizens/statement/Citizen_State_ment.pdf) accessed: 10/01/2013, 1

<sup>412</sup> CF Terry M. Moe, 'An Assessment of the Positive Theory of 'Congressional Dominance' 1987 (12) Legislative Studies Quarterly, 482

<sup>413</sup> Richard W. Waterman, 'Principal Agent Models: An Expansion' 1998 (2) Journal of Public Administration Research and Theory, 180-181

<sup>414</sup> Waterman (1998) 173-174

and pursue its own interests and there is normally also an information asymmetry between them.<sup>415</sup> Therefore the principal has to incentivise its agent (the regulator) so it works for the principal's benefit,<sup>416</sup> and make sure the operating of the agent is highly transparent<sup>417</sup> in order to ease its evaluation.

This is where rules for accountability come into the picture: to ensure that the regulator does not deviate from its duties.<sup>418</sup> Conceptually, there are different bodies to which the authority is accountable to and different processes through which accountability works. Ideally the regulator should be accountable to a neutral group instead of to the policy maker.<sup>419</sup> In practice, the regulator normally has some sort of accountability towards the government, the parliament, the courts, the industry participants and the consumers/consumer bodies. The national regulators should preferably be accountable to the political sphere through political control instruments, to the judiciary through legal procedures, and to other interested parties through the publication and explanation of policies and public consultation procedures.<sup>420</sup>

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<sup>415</sup> Antonio Estache, David Martimort 'Politics, Transaction Costs and the Design of Regulatory Institutions', 1999 no 2073 World Bank Policy Research Working Papers, available at: <http://elibrary.worldbank.org/docserver/download/2073.pdf?expires=1348078333&id=id&accname=guest&checksum=702C7045A1D1EAD60193A659E5E3083C> accessed 18/09/2012, 3

<sup>416</sup> John E. Garen 'Executive Compensation and Principal-Agent Theory' 1994 (102) Journal of Political Economy, 1176

<sup>417</sup> CF Scott (2000) 46

<sup>418</sup> Hancher et. al. (2003) 368

<sup>419</sup> Thomas Kiessl, Andreas Kuhlmann, Hans Schedl, 'The Telecommunication Markets in Selected OECD Countries: Market Characteristics and Regulatory Institutions' 2006 (3) CESifo DICE Report available at: <http://www.ifo.de/portal/pls/portal/docs/1/1193300.PDF> accessed: 22/092012, 35

<sup>420</sup> Hancher et. al. (2003) 368

As an example, the Communications Act 2003 discusses the means of Ofcom's accountability. In carrying out its duties, Ofcom has the general requirement to be "transparent, accountable, proportionate, consistent and targeted only at cases in which action is needed".<sup>421</sup> Accountability is guaranteed through a series of arrangements: Ofcom reports annually to the Parliament, it appears before Parliamentary Committees, advises on Parliamentary Questions, replies to questions of Parliamentarians, meets with Ministers to explain its work (evidence and recommendations to the Parliament and Ministers are made public to support transparency) and finally Ofcom is audited by the National Audit Office.<sup>422</sup>

Ofgem is also accountable for several bodies in several ways. Ofgem is accountable to the Parliament: it submits an annual review to the Secretary of States which is laid before the Parliament. It may also give evidence before Select Committees of the Parliament. Ofgem is audited by the National Audit office. Ofgem's actions can also be reviewed by the Parliamentary Commissioner for Administration. Ofgem is not accountable to the Government, but it maintains working relationships with many of the departments. Ofgem furthermore consults widely with the firms it regulates and there is an appeal process set to balance the rights of the parties.<sup>423</sup>

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<sup>421</sup> Communications Act of 2003, 3 (3)

<sup>422</sup> Ofcom, 'OFCOM response to European Commission consultation on the independence of audiovisual regulatory bodies' available at: <file:///C:/Users/47/Documents/OFCOM.pdf> accessed: 10/04/2014, p. 8

<sup>423</sup> Memorandum by OFGEM, Select Committee on Constitution Minutes of Evidence, available at: <http://www.publications.parliament.uk/pa/ld200304/ldselect/ldconst/68/3052109.htm> accessed 10/04/2014, para 24-28.

Accountability tends to be problematic in practice,<sup>424</sup> mainly as the nature of the relationship between accountability and independence is questionable.

In a publication on the matter, the House of Lords established that there is no conflict between accountability and independence.<sup>425</sup> In practice this could mean that a regulator can be considered independent if it has the power to initiate decisions on its own, without de-jure and de-facto being dependent on the political sphere. The fact that it has to justify its actions in some way (that the decision taken is in line with the government policies<sup>426</sup>) does not necessarily reduce its independence.

Some suggest that there is complementary relationship between independence and accountability, but at the same time their goals are potentially conflicting.<sup>427</sup>

Others suggest that accountability and independence go against each other<sup>428</sup> and therefore they can be pictured as two ends of an imaginary spectrum. This would imply that there has to be a balance between accountability and independence;<sup>429</sup> the ideal regulator should be sufficiently far from each extreme.

This approach acknowledges that a model in which a regulator's role is only implementing the mandate given by a parliament as too simplistic. In reality, regulators are created because as a technocratic body it is capable of making quality decisions based on its expertise.<sup>430</sup> This implies that the regulator should

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<sup>424</sup> Scott (2000) 39, Mehmet Ugur, 'Regulatory Quality and Performance in EU Network Industries: Evidence on Telecommunications, Gas and Electricity' 2009 (29) *Journal of Public Policy* 350

<sup>425</sup> House of Lords - Select Committee on the Constitution (2003) para 9.

<sup>426</sup> Hancher et. al. (2003) 360-361

<sup>427</sup> Larouche et. al. (2012) 15

<sup>428</sup> Geradin (2000) 20, Geradin (2005) 30, Hancher et. al. (2003) 368

<sup>429</sup> Geradin (2000) 14

<sup>430</sup> Hancher et. al. (2003) 361

make “real” decisions and for this they need discretion. This goes further than just applying law which can be reviewed without taking away anything from the regulator’s independence, even though the extent of the discretion may vary.<sup>431</sup>

Regardless of which interpretation is accepted, it can be established that the accountability of the regulator is just as important as its independence; it ensures that the regulator works to achieve its set goals, not for itself and performs at a high standard.

### **3.3 Regulatory Capture**

Regulatory capture can be defined in a broad or a narrow way. According to the broad definition, it is a “process through which special interests affect state intervention in any form”<sup>432</sup>, whilst the narrow definition is defined “specifically the process through which regulated monopolies end up manipulating the state agencies that are supposed to control them”.<sup>433</sup> In this paper the narrow definition is used because the need for independence of the government has already been discussed above.

According to the narrow definition, capture is in a sense the flip side of independence. The regulator can conceptually be positioned between the government and the industry. “Independence” as used above means autonomy from the government, hence resisting capture means maintaining autonomy from the industry.

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<sup>431</sup> Prosser (2010) 9

<sup>432</sup> Ernesto Dal Bo, ‘Regulatory Capture: a Review’ (2006) 22 Oxford Review of Economic Policy, 203

<sup>433</sup> *ibid*

Even if an independent regulator is created, there is the potential that it gets captured by the industry; it starts working in the industries' interests, rather than pursuing the aims set for it. The industry's primary interest is maximising its profit which is the contrary of the aim that is wished to be achieved through competition: higher efficiency and thereby lower competitive prices.

The literature on regulatory capture is already substantial. Most of this literature is heavily connected to utility regulation.<sup>434</sup> There is evidence on information asymmetries, transaction costs, agency problems, strategic interaction between stakeholders etc. leading to capture.<sup>435</sup> Informational links and personal links between the regulator and the industry are inevitable, but at the same time it can be used strategically to capture the regulator.

### **Capture in Practice**

Approaching the issue from the regulatory process it can be established that first of all, good quality regulation should be based on quality data. This data then has to be assessed by people with sufficient expertise. These issues are connected to capture because the closer the regulator is to the industry the more information it has regarding it.

### ***Information***

An NRA (National Regulatory Authority) needs information on costs from the regulated companies and also feedback from consumers to see the perceived

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<sup>434</sup> Dal Bó (2006) 203

<sup>435</sup> Ugur (2009) 348

weaknesses of its performance.<sup>436</sup> Key sectorial Information is shared asymmetrically between the undertakings present in the sector and the regulator. This is the factor that enables capture in the first place.<sup>437</sup> In order to acquire reliable information, the authorities need to create a “circle of trust” where (at least some) firms can be expected to provide accurate information, but in return the authority has to consult with the firms as well. This process obviously contains a degree of potential risk, as interactions between the regulator and the regulated firms (especially if those interactions became regular or even institutional) can easily lead to regulatory capture. At the same the asymmetric information between the regulator and the industry has to be neutralised somehow. Creating a circle of trusted firms is a comfortable option in general, while authorities that have a low budget, staff shortage, etc. will hardly find other ways to overcome this handicap,<sup>438</sup> as they will have insufficient capacity to carry out extensive monitoring that would be necessary otherwise.<sup>439</sup> The amount of risk arising from such practices depends on many components, such as the number of companies. The more companies that exist in a certain sector, the more options the regulator has to choose the ones to whom it gives credit for as well as allowing it to compare information across firms; the regulator has a stronger position, which lowers this risk. This also means that the danger involved in this process varies greatly through countries and sectors.<sup>440</sup>

One possible solution to maintain connection with the industry, but prevent capture is to counterbalance the influence of the industry. The regulatory authority tends to listen to the industry’s arguments, as other parties are too small and

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<sup>436</sup> Coen (2005) 377

<sup>437</sup> Dal Bó (2006) 210

<sup>438</sup> Coen (2005) 377

<sup>439</sup> Dal Bó (2006) 215

<sup>440</sup> Coen (2005) 377

diffused; they will find it difficult to express their opinions.<sup>441</sup> This suggests that the more diverse the parties (especially parties that have a lesser stake within the industry: consumer groups, NGOs, etc.) are involved with consultation, the less likely regulatory capture evolves.<sup>442</sup>

At the same time, Coen argues that firms working together with the authorities results in a positive outcome in the long run.<sup>443</sup> According to his theory, the relationship between regulators and regulated firms goes through four different stages. In the first stage, companies are rather just concerned about the information they give out and there is high regulatory uncertainty. In the second stage, there is increased co-operation yet no real trust between the parties and the focus is on compliance with the norms. The third phase states that companies begin to establish norms and understanding with the regulator, but there is still no industry-wide trust in these connections. In the last phase – after realising the benefits of co-operating – firms start to establish proactive links with the regulators, making issues and solutions heard to the regulator.<sup>444</sup>

### ***Personal Expertise***

The regulator needs personnel who have an in depth knowledge of the industry it regulates. Hiring people who worked in the industry may be a straightforward solution to make sure the regulator has experts who know the industry inside out, however this has its downsides as well.

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<sup>441</sup> Ugur (2009) 348

<sup>442</sup> Foster (n 22) 413

<sup>443</sup> Coen (2005) 395

<sup>444</sup> Coen (2005) 391-392

The issue of personal link between the industry and the regulator (“revolving doors”) is quite complex. Many scenarios can be analysed with both advantages and disadvantages. When an employee who used to work in the industry joins the regulator, he or she might still hold some bias favouring the industry during decision making; personal links and connections tend to exist even when switching jobs. At the same time, such a person potentially has extensive knowledge that can greatly assist the authorities. Whether the regulator’s employees should be allowed to work later on for the industry is also not straightforward. The industry may “bribe” personnel of the regulator by offering them well-paid jobs after leaving the regulator. In addition, from an employee’s perspective – who plans to look for employment in the industry – it also makes sense to be strict with the industry while working at the authority, showing that they are competent and ethical, giving him or her a positive professional reputation as a future employee.<sup>445</sup>

### **3.4 Costs**

Just like every public service, regulation comes with its drawbacks as well. Part of the disadvantage of regulation arises from operative costs of the regulatory authority. Regulation is often put in place to reduce the cost of monopoly. An obvious part of the monopoly cost is the deadweight welfare loss, however the monopoly cost has additional elements, the monopoly cost is higher than just the welfare loss.<sup>446</sup> Regulatory costs are justified as long as the benefit (reduction of the cost of monopoly) exceeds the costs of regulating, but the higher the ratio of the benefits/costs of regulation the better.

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<sup>445</sup> Dal Bó (2006) 214

<sup>446</sup> Richard A. Posner, ‘The Social Costs of Monopoly and Regulation’ (1975) 83 (4) The Journal of Political Economy, 807, 807

The idea of efficiency based regulation has been debated for long. According the “Public Interest” view, natural monopolies call for regulation in order to hinder their ability to impose monopoly costs on the society.<sup>447</sup> This approach concludes that regulators are working for the consumers when preventing such abuse, and the costs of maintaining a regulator are justified by higher consumer welfare which arises from of its operation.

The “Public Interest” view was challenged by Stigler,<sup>448</sup> (although, his ideas were not completely new,<sup>449</sup> Laffont and Tirole trace the idea back to Marx<sup>450</sup>) who argued that regulators – even if they were really set up due to the natural monopoly problem, and tasked with the promotion of consumers’ interests – tend to be captured by the industry, which means that after a while they rather work for the firm(s) they would have to regulate to reduce the costs of monopoly. He also pointed out the fact that regulation is not only used in cases of natural monopolies, so it cannot be said that regulation is used in general to reduce the costs of a monopoly. Sectors may actively call for their regulation for their own benefit, and achieve it depending on the numbers of voters, the wealth they have, and the ease of their organisation.<sup>451</sup> Politicians seek money and votes,<sup>452</sup> in a sense these are the currencies used to buy regulation. Politicians can even make otherwise

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<sup>447</sup> Dal Bó (2006) 204

<sup>448</sup> George J. Stigler ‘The Theory of Economic Regulation’ 1971 (2) *The Bell Journal of Economics and Management Science*, 3

<sup>449</sup> Sam Peltzman, Michael E. Levine and Roger G. Noll, ‘The Economic Theory of Regulation after a Decade of Deregulation’ (1989) *Brookings Papers on Economic Activity. Microeconomics*, 1, 5

<sup>450</sup> Jean-Jacques Laffont, Jean Tirole, *A Theory of Incentives in Procurement and Regulation* (MIT Press, 1993) 475

<sup>451</sup> Stigler (1971) 12

<sup>452</sup> Peltzman (1989) 6

unpopular decisions as the average voter would normally only be marginally affected and therefore will not be too concerned.<sup>453</sup> Stigler's argument can be regarded as the Chicago School's doctrine on public policy and also as a compliment to the "Public Choice" theory.<sup>454</sup>

Peltzman expanded on Stigler's idea.<sup>455</sup> In Peltzman's model, three sides are analysed: the industry's, the consumers' and the politicians'. According to Peltzman "what is basically at stake in regulatory processes is a transfer of wealth".<sup>456</sup> He argues that politicians act like a mediator between the industry and the consumers<sup>457</sup>: therefore they introduce regulation when there is relatively high possibility for levelling gains between them (regulatory entry).<sup>458</sup>

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<sup>453</sup> Stigler (1971) 11

<sup>454</sup> Dal Bó (2006) 205

<sup>455</sup> Sam Peltzman, 'Toward a More General Theory of Regulation' 1976 (19) Published: Journal of Law and Economics 211

<sup>456</sup> Peltzman (1976) 213

<sup>457</sup> Peltzman (1989) 9

Dal Bó (2006) 205

<sup>458</sup> Peltzman (1976) 206

## The Peltzman model

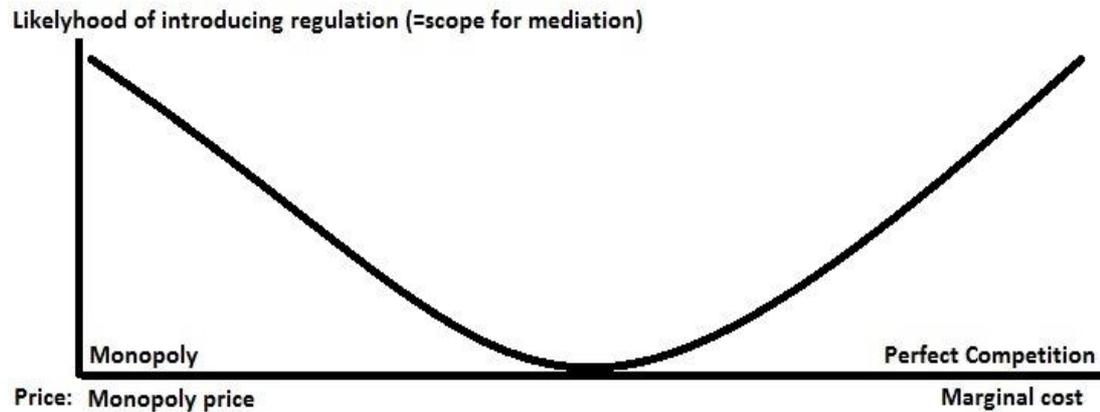


Figure 52 Peltzman model (illustration)

This means that in a monopolistic industry, regulation is introduced because the monopoly earns monopoly profit and there is plenty of scope for making consumers better off. By applying the same logic, it can then be shown that regulation is also likely to be introduced in highly competitive markets, whereby firms can only price their product on the level of their marginal costs (which is at the same time the most beneficial for consumers), because there are plenty of gains achievable for them.<sup>459</sup> However, regulation is not aimed at the elimination of the cost of monopoly.

In terms of the institutional side of regulation, this school of thought suggests that the whole point of their existence is mitigating surplus (as opposed to maximising consumer surplus). They only do harm to consumers in a competitive setting, but they do not aim at achieving maximum consumer surplus in a monopolistic setting either because their aim is mitigate, rather than eliminate. Getting rid of the middle-man and putting in place regulation aiming towards full consumer surplus leads to better results, it also saves the costs of operating a regulatory authority.

The German regulatory experiment however does not support this view. During the initial stage of the German electricity reform, they did not put any ex-ante

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<sup>459</sup> Peltzman (1976) 223-224

regulation in place (only the Competition Authority had ex-post power as usual), nevertheless the lack of a regulatory authority turned out to be highly problematic. During the period when the regulator responsible for the electricity sector was absent, factors such as prices, market concentration and consumer satisfaction were performing worse in Germany than in the UK. There was an especially noticeable fall in consumer satisfaction between 1997 and 2000 (which is also the period when the German electricity companies merged into four electricity giants) in the German electricity sector. Eberlein connects market structure to prices and ultimately to consumer satisfaction: “some claim that these price increases are in response to higher fuel prices, a much more important reason however, is the new market structures we see operating – market structures that are in fact less efficient than their predecessors. The result is higher prices and no net consumer benefits.”<sup>460</sup> Providing access through fair terms is probably the most important prerequisite for the development of competition. Assigning this issue to the competence of competition authorities and via ex-post regulation seems to be a very weak solution. Giving a weak answer to the most important problem of the sector inevitably led to insufficient competitiveness.<sup>461</sup> Although it seemed that the costs of operating a regulator were reduced, since other bodies had to deal with issues arising from the absence of a regulatory authority, this turned out to be a false impression. Moreover, these other bodies were likely to be less efficient than a regulator would have been.

However, it was a mistake to think that Germany can save the costs of operating a regulator: problems arose that had to be dealt with. As a result of the lack of a regulatory authority, the Competition Authority had to deal with all emerging

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<sup>460</sup> John A. Anderson, ‘Electricity Restructuring: A Review of Efforts around the World and the Consumer Response’ 2009 (22) *The Electricity Journal* 71

<sup>461</sup> Burkard Eberlein, ‘Institutional Change and Continuity in German Infrastructure Management: The Case of Electricity’ 2000 (9) *German Politics* 93

issues. The Competition Authority had two main tools at its disposal: firstly, it can use the essential facilities doctrine to facilitate access to the grid. Secondly, it can use merger control to block mergers that would have the likely effect of restricting access by fair terms to the grid. The main problems seem to be that the Competition Authority simply did not have the resources such as technical expertise or the time to deal with the large amount of cases that originated from the electricity sector. Moreover, the companies had the widespread right to turn to the court (being an organisation focused on the interpretation and application of the law), that were presumably less competent in deciding on cases concerning predominantly economic issues. Additionally, the Competition Authority's interim injunctions or orders do not have direct enforcement powers.<sup>462</sup>

There was not much to expect from the competition authorities of the Landers' either. These authorities tend to be understaffed and in general rather passive. They also seemed to be ill-equipped to deal with the nation-or even European wide electricity companies.<sup>463</sup> At the end, EU law made changing this system compulsory.

The outcome of the above-mentioned German experiment suggests that investing in the operation of a regulatory authority is more beneficial than not having one. Lasting market power leads to constantly emerging competition issues; in order to be able to deal with these issues, capacity and expertise is needed. However, minimising the costs of the regulatory authority is crucial; the regulator should be as efficient as possible.

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<sup>462</sup> Ibid

<sup>463</sup> Eberlein (2000) 93

### 3.5 Regulatory Quality

The way the regulator is set to operate also affects regulatory quality. The regulator's operation is defined by a complex set of rules. As the aim of these rules may go against each other in some cases, a careful balance is essential.

Continuing with listing the factors that support regulatory quality, the next point to note is that the regulator might have all the data and expertise necessary to make a correct decision, but if the appropriate solution falls outside of the powers of the authority, then the outcome of the whole process will be compromised. The regulator needs a sufficiently wide toolkit, appropriate procedural and structural arrangements so it can provide appropriate regulatory solutions.

Innovative regulatory solutions should also be encouraged. This again, underlines the importance of wide powers and discretions.

At the same time there should be mechanisms to ensure regulatory consistency and legal certainty. Falling short of doing this will enhance risks and therefore, deter investments.<sup>464</sup> When the regulation is not predictable, the companies lose confidence about the profitability of their investments.<sup>465</sup>

All these goals should be balanced within a structure that remains as simple as possible. Procedural and structural complexity may have several drawbacks: it may reduce transparency, lead to slow operation and make the operating of the regulator less cost-effective. Cost-effectiveness for EU member states may be less of a concern than for third world countries, but it is still a concern nevertheless and therefore it should not be overlooked.

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<sup>464</sup> Brian Levy and Pablo T. Spiller, 'The Institutional Foundations of Regulatory Commitment: A Comparative Analysis of Telecommunications Regulation' (1994) 10 (2) *Journal of Law, Economics, & Organization*, 201, 202

<sup>465</sup> Hancher et. al. (2003) 367-368

## 4 The Pros and Cons of Multi-Sector Regulators

The previous section set up a general framework of institutional issues and described the interactions as well as the necessary balance between them. Here the assessment is taken forward by analysing how these features are affected by the institutional setup. In other words, what difference does it make in terms of independence, accountability, likelihood of regulatory capture and costs, whether the regulator is set up as a single sector regulator or a multi-sector regulator, and what other regulatory features are affected – all other factors affecting these features being equal. The issues under “Regulatory Quality” are dealt with separately here as there are different effects in terms of different elements.

The existing literature on this question mostly concerns Third World countries. This paper however concerns two of the major EU economies, hence the applicability of the findings of this literature is considered where necessary due to the differences between the subjects.

Most of the pros and cons are two sides of the same coin, so for the sake of simplicity here we will analyse the issues from a multi-sectoral perspective (the “pros” of a multi-sector regulators are implicitly the “cons” of a single-sector regulators, neutral features are irrelevant by definition).

### 4.1 Pros

#### Enhanced Independence

Due to its broader constituency a multi-sector regulator is more likely to be able to stay independent of the political sphere.<sup>466</sup> Multi-sector regulators are claimed to

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<sup>466</sup> Ioannis N. Kessides, *Reforming Infrastructure – Privatization, Regulation, and Competition* (World Bank Policy Research Report, OUP 2004) p 99

be more resistant for capture from either the government's or the industry's side.<sup>467</sup> From the government's side capture is usually attempted by the ministry<sup>468</sup> that is in charge for the current sector, however when there are more than one sector governed by the authority, it is likely that there is more than one ministry trying to influence the sector.<sup>469</sup> When there are several principals (in this case ministries) but only one agent (the regulator), the individual principals' ability to influence the agent is likely to be lower than when there is only one principal.

The multi-sector regulator is therefore more likely to be able to resist political pressure during its decision making. Refusal to submit to political pressure concerning one sector can create a precedent that can be applied in a range of other sectors when a multi-sector regulator is in place.<sup>470</sup>

However if a dominant ministry manages to exert power on the regulator, all regulated sectors may be influenced by the political sphere.<sup>471</sup>

Examples of regulators from the countries concerned also support the concept that multi-sector regulators tend to be more independent. Hanretty et. al. compared the regulators' independence based on a weighted scoring system that consisted of political independence of the regulator, freedom from political instructions, length of term for the head of the regulator, potential for renewal of the appointment, the ease of removal of the head, independence from financing, the regulator's control over its own budget, political potential for overturning regulatory decisions, regulator's exclusivity of competence and political incompatibility (members of the

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<sup>467</sup> Jordana, Levi-Faur (2010) 345

<sup>468</sup> Ian Walden, John Angel, *Telecommunications Law* (Blackstone, 2001) p. 510

<sup>469</sup> Anders Henten, Rohan Samarajiva, William Melody, 'Designing next generation telecom regulation: ICT convergence or multi-sector utility?' 2003 (5) *Info*, 32

<sup>470</sup> Schwarz, Satola (2000) 31

<sup>471</sup> *Ibid*

regulator cannot hold political office). They found that the Bundesnetzagentur is now more independent than Ofgem of Ofcom, or the Bundeskartellamt, signalling a significant change in the German regulatory culture.<sup>472</sup>

### **Enhanced Resistance to Capture**

The multi-sector regulator is going to be dealing with more than one industry, which decreases the likeliness of problems arising out of linkages between the regulator and the industry (see the example of the revolving door problem, mentioned before). This is because a multi-sector authority is not just dependent<sup>473</sup> on one industry but rather, on many<sup>474</sup>, hence the link to each single one is weaker.<sup>475</sup> Industry-specific groups should therefore, find it harder to capture the regulator.<sup>476</sup> The industries would have to collude in order to be able to have the same opportunities to capture the regulator, making it much more complicated to carry out.

Also, the theory suggests that capture is less likely when the number of firms regulated is higher. Dealing with more sectors means that (excluding the unlikely event of having the same firms participating in all sectors) the authority will

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<sup>472</sup> Chris Hanretty, Pierre Larouche, Andreas Reindl, 'Independence, accountability and perceived quality of regulators' CERRE Study, 2012 available at: [http://www.cerap.be/IMG/pdf/report\\_container.pdf](http://www.cerap.be/IMG/pdf/report_container.pdf) accessed 10/04/2014, 33

<sup>473</sup> Kessides (2004) p 99

<sup>474</sup> Walden, Angel (2001) 510

<sup>475</sup> Henten, Samarajiva (2003) 32

<sup>476</sup> Schwarz, Satola (2000) 31

regulate more firms. However, if one dominant industry manages to capture a multi-sector regulator, other sectors might be affected as well.<sup>477</sup>

### **Enhanced Cost Effectiveness**

Analysing the reforms of developing countries, some argues that establishing multi-sector regulators can be a cost-effective solution.<sup>478</sup> Essentially this is because the industry specialist staff can share the services of the same administration and other non-industry specific staff.<sup>479</sup> Personnel with expertise such as lawyers, economists, financial analysts are likely to be useful regardless of the different industries concerned.<sup>480</sup> At the same time, Kerft and Geradin argue that by taking into account factors such as the costs of delays and possible regulatory mistakes, it might compensate for the higher costs of maintaining a specialised regulator.<sup>481</sup>

It would seem that the relevance of the issue in the cases concerned is questionable: a small developing country might find it impossible to establish properly functioning specialised regulators<sup>482</sup> however, it is unlikely that this would be a problem for countries such as Germany or the UK.

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<sup>477</sup> Walden, Angel (2001) 510, Schwarz, Satola (2000) 31

<sup>478</sup> Tooraj Jamasb, 'Between the state and market: Electricity sector reform in developing countries' 2006 (14) *Utilities Policy*, 23, also Jordana, Levi-Faur (2010) 345

<sup>479</sup> Warrick Smith, 'Utility Regulators-Roles and Responsibilities' 1997 Note no. 128 *Viewpoint*, 1

<sup>480</sup> Walden, Angel (2001) 510

<sup>481</sup> Michel Kerft, Damien Geradin, 'Controlling market power in telecommunications: antitrust vs. sectorspecific regulation - An Assessment of the United States, New Zealand and Australian Experiences" (1999) 14 (919) *Berkeley Technology Law Journal*, 919, 1016

<sup>482</sup> Kessides (2004) p 99

A key finding of the Atkins report (in connection with the regulators of the UK) was that the cost of regulation is rising “well in excess of inflation”<sup>483</sup>, but adds that these costs are “still very small in comparison to the turnover of the regulated industries and to the benefits received by consumers”.<sup>484</sup> This would still suggest that in the long run, even richer countries can find this solution beneficial.

On the other hand, there is evidence that expectations for enhanced cost effectiveness may not be realised in practice: Ofcom cost 25% more than the cost of the regulators it supplanted. Although, it was not the aim behind merging the regulators,<sup>485</sup> some overall cost reductions were expected by combining all these regulators into one. Whether this expectation materialised or not is questionable.<sup>486</sup> Considering that Ofcom had 263 separate regulatory duties, which was more than twice as many its predecessors had altogether,<sup>487</sup> the creation of Ofcom might have led to more cost-efficient regulation even if the costs did add up to be more than previously.

There is only scope for staff related costs savings when part of the staff is not working on full-capacity. This can be the case when the workload is inconsistent

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<sup>483</sup> WS Atkins Management Consultants, ‘External Efficiency Review of Utility Regulators – Final report’ 2001, available at: [http://archive.treasury.gov.uk/pdf/2001/regulators\\_1902.pdf](http://archive.treasury.gov.uk/pdf/2001/regulators_1902.pdf) accessed: 19/02/2013, vi.

<sup>484</sup> WS Atkins Management Consultants, ‘External Efficiency Review of Utility Regulators – Final report’ 2001, available at: [http://archive.treasury.gov.uk/pdf/2001/regulators\\_1902.pdf](http://archive.treasury.gov.uk/pdf/2001/regulators_1902.pdf) accessed: 19/02/2013, vi.

<sup>485</sup> Ibid 15

<sup>486</sup> CF House of Commons Committee of Public Accounts, ‘Ofcom: the effectiveness of converged regulation’

Twentieth Report of Session 2010-11, available at: <http://www.publications.parliament.uk/pa/cm201011/cmselect/cmpubacc/688/688.pdf> accessed: 10/04/2014

<sup>487</sup> Ofcom, ‘A case study...’ (2006) 4

over time, for example there is a tendency for the beginning of the month to be significantly busier while towards the end of the month, workload is a lot more relaxed. If another agency has the opposite cycle of inconsistent workload by uniting the regulatory staff-related, costs can be cut.<sup>488</sup>

### **Enhanced Innovativeness**

What, seems to be more realistic however, and hence more important than cost reductions, is the enhanced quality of regulatory work by creating teams of experts with different backgrounds, especially if their more diverse expertise can be used creatively to help resolve issues in another sector.

Merging regulators can facilitate the transfer of regulatory know-how between different sectors. This is likely to be more important when a country has limited regulatory expertise or skilled personnel.<sup>489</sup>

Whether the potential for such quality gains exist however, is hard to assess. If there is a frequent need to consult such outsider experts available at another regulator, it is likely that uniting the regulators can achieve enhanced quality decisions.

### **Enhanced regulatory consistency and credibility**

By creating a “common regulatory culture”, a multi-sector regulator is also likely to bring more consistency in the regulation of the different sectors.<sup>490</sup> This enhances

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<sup>488</sup> Schwarz, Satola (2000) 31

<sup>489</sup> Walden, Angel (2001) 510

regulatory certainty because a decision made in respect of a sector, is more likely to be replicated if the same issue is considered in terms of another industry.<sup>491</sup> Since a multi-sector regulator has a higher caseload, the range of precedent cases is going to be wider too.<sup>492</sup> These factors enhance regulatory certainty; more regulatory certainty brings about important benefits such as increased investments.<sup>493</sup>

In the UK, the first proposals for a merged communications regulator date back to the mid-'90s.<sup>494</sup> The main argument for the merger was that the telecommunications and the broadcasting platforms were converging, therefore regulatory convergence was necessary to avoid regulatory inconsistencies.<sup>495</sup>

Multi-sector regulators are expected to deal better with big firms operating in more than one sector.<sup>496</sup> Inconsistent regulation may cause distortions between competing industries (e.g. gas-electricity).<sup>497</sup> There is a trend of quickening convergence between related sectors (such as telecommunications and broadcasting) and regulated companies, frequently start competing in another industry, offering bundled services (many telecommunications and electricity

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<sup>490</sup> Smith (1997) 1

<sup>491</sup> Walden, Angel (2001) 510

<sup>492</sup> Schwarz, Satola (2000) 31

<sup>493</sup> Jordana, Levi-Faur (2010) 345

<sup>494</sup> Cf. Labour Party, 'Communicating Britain's future' (1995), Richard Collins, Cristina Murrioni, 'New Media New Policies' 1996 Institute for Public Policy Research,

<sup>495</sup> Ofcom, 'A case study on public sector mergers and regulatory structures' (2006) available at:  
[http://www.ofcom.org.uk/files/2010/07/public\\_sector\\_merger\\_case\\_study.pdf](http://www.ofcom.org.uk/files/2010/07/public_sector_merger_case_study.pdf) accessed: 10/04/2014, p. 10

<sup>496</sup> Ibid

<sup>497</sup> Kessides (2004) p 100, Schwarz, Satola (2000) 32

services provided by the same firm).<sup>498</sup> Enhanced regulatory consistency between different industries is likely to be more and more important in the future.<sup>499</sup>

The obstacle is that the regulator may find, is the increased risk regarding improperly applied precedents. The more different two sectors are, the less likely the same logic can be applied for them yet however, a multi-sector regulator may start to feel obliged to follow a previous precedent, regardless of this factor.<sup>500</sup>

### **Less problems with conflicting competencies**

As markets and sectors converge, authorities that have overlapping competencies become a key issue. Cross subsidisation between multi-product firms is a common practice.<sup>501</sup> At the same time, this practice blurs out the costs of the different businesses. It is important to note though, that the regulatory authority understands these costs. When separate regulators only observe parts of the company businesses, this task becomes much more difficult compared to when one authority is responsible for all the different branches within the company.<sup>502</sup>

In case the firms have multiple authorities to turn to, they can simply contact the one that is more lenient towards them<sup>503</sup> and then claim to other authorities that the issue is *res judicata*. From the regulator's perspective, the same practice results

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<sup>498</sup> Kessides (2004) p 99

<sup>499</sup> Walden, Angel (2001) 510

<sup>500</sup> Schwarz, Satola (2000) 31

<sup>501</sup> Damien Geradin, 'Regulatory issues raised by network convergence: the case of multi-utilities' (2001) 2 Journal of Network Industries, 113, 120

<sup>502</sup> Ibid 123

<sup>503</sup> Larouche (2004) 283

in becoming either virtual or the most lenient: each authority knows that unless they offer the most favourable solution amongst all, they are going to be circumvented which in turn triggers a race between the authorities themselves to serve the industry as much as possible.<sup>504</sup> At the same time, having multiple authorities may lessen or diminish the potential for the regulator to act in favour of the industry and mislead his principal.<sup>505</sup> The reason for this is because when more than one regulator is dealing with a certain issue, they have the capability to check on each other.

Being in a “monopoly” position in terms of sector regulation is advantageous as it simplifies the picture: it is clear to all parties as to who is in charge of the sector. Firms know that there is only one body to who they can turn to so they have the incentive to have a good relationship with the authority, to comply with its decisions, enhancing the importance of the regulator.<sup>506</sup>

Nevertheless, the principal agent model suggests that when there is more than one agent, information asymmetry becomes less of an issue. Additionally, when interest groups are added to the picture, the information asymmetry is reduced. For example, the industry will not let the regulator misinform the principal (especially misinformation leads to disadvantageous consequences), but go forward with their own data and findings.<sup>507</sup> In highly complex industries, asymmetric information subsequently poses a bigger problem,<sup>508</sup> this suggest that telecommunications should be more problematic.

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<sup>504</sup> CF Ugur (2009) 350-352

<sup>505</sup> Dal Bó (2006) 211

<sup>506</sup> Coen (2005) 378

<sup>507</sup> Waterman (1998) 182

<sup>508</sup> Ibid 184

Although mergers between the Competition Authority and the sector regulator was out of the scope for this study, the lessons that can be learnt from existing arrangements to deal with overlapping competence between the Competition Authority and the sector regulators is relevant here. In the countries concerned, conflicting competencies exists rather between regulators and competition authorities.

During the 1990's, the task of OFFER was solely economic regulation. The Competition Act 1998 broadened the competition tasks of the regulator, who had to work together with the OFT on competition related issues.<sup>509</sup> Ultimately the OFT and the Competition Commission also had duties related to the electricity sector. OFT protected consumer interest in general in the competitive levels, while the Competition Commission's speciality is in investigating mergers, so it promoted competition via merger control, but only when a case was referred to it by the Ofgem or the OFT.<sup>510</sup>

As markets are becoming more and more competitive in the UK, especially after the Competition Act 1998, there is more space for competition law and also for the Competition Authority that applies it. This ultimately provides the companies an option to think strategically and circumvent the least preferred authorities.<sup>511</sup> In order to neutralise the problems that could arise out of the collision of competencies, the OFT and the regulators set up the Concurrency Working Party in 1997. The Concurrency Working Party gathers approximately six times a year under the chairmanship of the OFT's representative. The aim of the meetings is to establish practical working arrangements, discuss issues of common interest, share

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<sup>509</sup> The evolving role of Ofgem' (2010) Utility Week, available at: [http://www.utilityweek.co.uk/news/news\\_story.asp?id=170841&title=The+evolving+role+of+Ofgem](http://www.utilityweek.co.uk/news/news_story.asp?id=170841&title=The+evolving+role+of+Ofgem) accessed: 20/09/2012

<sup>510</sup> Roggenkamp et. al. (2007) 1180

<sup>511</sup> Coen (2005) 388

information and coordinate the competition law related cases.<sup>512</sup> Besides the Concurrence Working Party, the good reputation established by the regulators throughout years of work has also helped it adapt to the changing environment without much problem.<sup>513</sup>

Recently, the Enterprise and Regulatory Reform Act 2013 altered this arrangement, giving more power to the new Competition Authority, the CMA.<sup>514</sup> Furthermore, Ofgem's referral of the energy market for a full investigation to the CMA<sup>515</sup> could harm Ofgem's reputation as an effective regulator.

In Germany the regulatory authorities were far less strong. The Competition Authority and the courts had significant overlapping powers even in the telecommunications sector while in the electricity sector, initially a regulatory authority was not even established, but the regulatory functions necessitated by EU law (in Germany's case, negotiated third-party access) was added to the Competition Authority's responsibilities.<sup>516</sup>

There was an overlap between the competencies of RegTP and the Federal Cartel Office (sometimes even with the Monopoly Commission) in competition issues.<sup>517</sup> While the RegTP was probably the dominant in ex-ante regulation, the Competition

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<sup>512</sup> OFT, 'Concurrency Working Party' available at: <http://www.oft.gov.uk/about-the-oft/legal-powers/legal/competition-act-1998/Concurrency/#named3> accessed 13/09/2012

<sup>513</sup> Coen (2005) 388

<sup>514</sup> Niamh Dunne, 'Recasting Competition Concurrency under the Enterprise and Regulatory Reform Act 2013' (2014) 77(2) *Modern Law Review*, 256

<sup>515</sup> CF, Ofgem, 'Ofgem refers the energy market for a full competition investigation' available at: <https://www.ofgem.gov.uk/press-releases/ofgem-refers-energy-market-full-competition-investigation> accessed: 10/10/2014

<sup>516</sup> Coen (2005) 382

<sup>517</sup> *Ibid*

Authority was the major ex-post regulator, transparency was a problem as it was not even clear who (RegTP or Competition Authority) was in charge for certain issues.<sup>518</sup> This problem was largely resolved by the creation of the Bundesnetzagentur. The Bundesnetzagentur was the main regulator of the telecommunications sector: it enforces the provisions of the special telecommunications law as well as German competition law, leaving the Bundeskartellamt only EU competition law to apply for the sector.<sup>519</sup>

Yet, both the existence of a regulator and a Competition Authority seems to be necessary as on one hand, the German example has shown that the Competition Authority cannot completely replace the job of the regulator and on the other hand, according to Geradin, the application of competition law by national regulators carries the risk of alternative interpretation and is therefore fragmented in the legal practice.<sup>520</sup>

## **4.2 Cons**

### **Less Accountability**

Further to being more independent, multi-sector regulators are likely to have a more complex structure, more complex procedures, aims and obligations which, may potentially reduce transparency. Accountability therefore, may be more of an issue for multi-sector regulators than for single sector ones. In order to achieve

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<sup>518</sup> Coen (2005) 382-383

<sup>519</sup> OECD. 'Report on Experiences with Structural Separation' 2011 available at: <http://www.oecd.org/daf/competition/50056685.pdf> accessed: 02/10/2012, 20

<sup>520</sup> Geradin (2000) 23

adequate accountability more emphasis has to be added to the issue when it comes to multi-sector regulators.

In line with expectations i.e. a super regulator is less accountable, Larouche et. al. suggest that the Bundesnetzagentur is less accountable than Ofgem and Ofcom (but more accountable than the Bundeskartellamt).<sup>521</sup> These together mean that the German regulator has considerable power, potentially more than its British counterparts.

### **Higher Risk: One Fails – All Fails**

It has been argued that creating a multi-sector regulator is risky. Combining the regulatory functions is like "putting all your eggs in one basket";<sup>522</sup> if the authority fails all sectors' regulation is going to fail.

The risk of institutional failure can be mitigated by creating separate regulatory authorities.<sup>523</sup> Creating separate regulatory authorities also gives the potential of experimenting with different innovative ideas at the same time, with a limited risk of failure.<sup>524</sup>

### **Less Able to Accommodate for Different Needs of the Different Sector**

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<sup>521</sup> Hanretty et. al. (2012) 49

<sup>522</sup> Smith (1997) 2

<sup>523</sup> Kessides (2004) p 98

<sup>524</sup> Kessides (2004) p 98

One of the main reasons for establishing sector regulators is that they have a special focus (compared to the government, or the competition authorities<sup>525</sup>) hence, they are better placed to study the industry and to gain knowledge to provide better regulation.<sup>526</sup> By combining the regulators, this focus is broadened which may reduce the aforementioned ability.<sup>527</sup> A multi-sector regulator may be more likely to use a generalised approach even if it is not appropriate in a certain case.<sup>528</sup>

The fact that different regulated industries are likely to evolve at a different pace moving towards competition from the ex-monopolistic state may also cause additional issues in a multi-sector regulator.<sup>529</sup>

This effect can however, be mitigated by creating sector-specific branches within the regulatory body.<sup>530</sup>

### **More Complex, Slow Operation**

The structure of a multi-sector regulator is likely to be more complex than of a single sector regulator's, which can lead to complicated decision making. This may lead to less transparency, which is a key principle of good governance.<sup>531</sup>

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<sup>525</sup> Kerft, Geradin (1999) 930

<sup>526</sup> Kessides (2004) p 98

<sup>527</sup> Jordana, Levi-Faur (2010) 346

<sup>528</sup> Schwarz, Satola (2000) 31

<sup>529</sup> Walden, Angel (2001) 511

<sup>530</sup> Ibid 510

<sup>531</sup> Hancher et. al. (2003) 358-359

However, this can be counteracted by structural arrangements as the Ofcom example suggests. The structure of Ofcom is defined by the Office of Communications Act of 2002. There seem to be a deviation from the previous model of single person dominance which was observable in other regulators, especially in Oftel's structure. At the same time the ITC and the Radio Authority operated a commission structure. The proposal for Ofcom was a mixture of the two. Ultimately, Ofcom's Board is similar to a private company's, with a separate chairman and chief executive, a majority of independent members and some executive members.<sup>532</sup> The Board is Ofcom's main decision making body<sup>533</sup> and is headed by a chairman who is appointed by the Secretary of State for five years. There are also executive members, headed by the chief executive who is appointed by the chairman.<sup>534</sup> The Chief Executive is responsible for Ofcom's day to day operation as well as being answerable to the Board. Together with the rules established on founding, which is combined from fees pertaining to the sectors regulated and grant-in-aid from the Government, appointment rules are key to Ofcom's independence.<sup>535</sup> The internal structure got little attention in the Parliamentary process, although – besides guaranteeing independence – it has important implications on Ofcom's operation: for example it states to have enabled Ofcom to act quickly especially during the set-up period.<sup>536</sup>

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<sup>532</sup> Ofcom, 'A case study...' (2006) 15

<sup>533</sup> OFCOM, available at: <http://www.ofcom.org.uk/about/how-ofcom-is-run/> accessed: 21/09/2012

<sup>534</sup> Office of Communications Act of 2002.1 The Office of Communications

<sup>535</sup> Ofcom, 'OFCOM response to European Commission consultation on the independence of audiovisual regulatory bodies' available at: file:///C:/Users/47/Documents/OFCOM.pdf accessed: 10/04/2014, p. 2

<sup>536</sup> Ofcom, 'A case study...' (2006) 14

Ofgem got a similar structure as Ofcom, and although Ofgem grew larger and gained more tasks, it still had a reputation of working quickly and efficiently, which was especially important in connection with managing the agreements of regulated access and ultimately regulatory quality.<sup>537</sup>

However as the German example would suggest, timely operation is not exclusively defined by the internal structure. The RegTP dealt with controversial cases in chambers (similar to courts). Its decision could have been challenged by third parties in front of the administrative court.<sup>538</sup> One of the issues with the RegTP was that it worked rather slowly. This was partly due to the fact that its decisions could be widely challenged in front of the court and therefore, the interested parties had to wait until the court reached a decision partly due to simply having been a newly established body. This was because the German ex-ante type regulation was still under development.<sup>539</sup>

### 4.3 Summary

The structure of the authority is not the only factor that influences the features concerned above. There are normally special rules describing the duties related to accountability, the safeguards for independence etc. However, if these rules stay the same, merging the regulators (the creation of a multi-sector regulator) in itself is likely to have an effect on these features. Some of these changes are beneficial some are not (see the summary in the table below).

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<sup>537</sup> Coen (2005) 379

<sup>538</sup> Ibid

<sup>539</sup> Ibid

Summary of the pros and cons of multi-sector regulators	
Pros	Cons
Enhanced independence	Less accountability
Enhanced resistance to capture	Higher risk: one fails –all fails
Enhanced regulatory consistency and credibility	Less able to accommodate for different needs of the different sector
Enhanced innovativeness	More complex, slow operation
Enhanced cost effectiveness	
Less problems with conflicting competencies	

Figure 53 Summary of the pros and cons of multi-sector regulators

It can be seen from this summary, that there are numerous advantages but also quite a few disadvantages of multi-sector regulators. Therefore, it cannot be argued in the one model or the other is “better” in general.

## 5. A multi-step approach

The previous part analysed the differences in the key institutional features in a static way: the assessment simply looked at how these features change if the regulator is setup up as a single sector regulator or a multi-sector regulator. Here the analysis takes a step forward by looking at the question in a dynamic way. Not simply the regulatory structure, but the merger *process* is in the focus. This is

contrasted with the predictable changes in regulatory issues as the reforms develop.

The paper started off by claiming that the main institutional factors work as a system of checks and balances and a careful balance is need to be achieved when designing the regulatory institutions. As the sectors evolve during the reform process, the circumstances which the regulator has to deal with, as well as the aims set for the regulator are likely to change this, however, means that balance might need to be re-adjusted along the reform process.

Then the subjects of the comparisons; the British and the German sectorial regulators have been discussed as a development process rather than as a snapshot of the current institutional arrangement. This is because the paper argues that asking whether a UK style single sector regulator or a German style multi-sector regulator is a superior setup (according to any measure) would likely to lead to the over-simplification of the matter. A dynamic approach is needed which takes into account the changing circumstances within which the regulator operates.

This leads towards the question of how can synergies arising out of merging the regulator outweigh the costs of it. While it has been shown that both setup has pros and cons and the decision between creating one or another is ultimately a trade-off, assessing these in their dynamics enables maximising the pros and minimise the cons.

## **(5.0 The counterargument)**

There have been a few studies<sup>540</sup> concerning briefly the actual process of creating multi-sector regulators. They essentially argue that the creation of multiple

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<sup>540</sup> Smith (1997) Schwarz, Satola (2000) 489,

authorities and then their subsequent union is a disadvantageous strategy for two main reasons:

- they do not have the a potential for advanced cross-industry learning; and
- the regulators do not have an incentive to merge in later stages.<sup>541</sup>

However in relation to the first point, this paper argues that in the early stages, by definition regulators do not have much experience which would give the basis of learning from other industries. At the beginning, experimenting with different solutions enabled more widely (the creation of many different authorities)bis likely to carry more benefits.

In terms of the second argument, it is easy to see how a policy of merging regulators (a step-by-step approach) leads to constant tensions within the authorities: employees are under pressure because they know they might become redundant. There is practical evidence for the existence of this incentive as well: during the creation of Ofcom. Not all the regulators welcomed their planned assimilation into a single regulator: there was a body of opinion that the creation of Ofcom should not have proceeded. There were different potential options considered, such as the creation of two regulators: one responsible for content, the other for network issues, or even a looser federation of regulators, yet setting up a single authority became the popular favoured option.<sup>542</sup>

However, it cannot be implied that the already existent authorities will try to 'sabotage' the merger. Merging regulators is an existing practice and it does not seem to have a vast negative effect on the work of the regulators; extreme cases

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<sup>541</sup> Smith (1997) 2-3

<sup>542</sup> Ofcom, 'A case study on public sector mergers and regulatory structures' (2006) available at: [http://www.ofcom.org.uk/files/2010/07/public\\_sector\\_merger\\_case\\_study.pdf](http://www.ofcom.org.uk/files/2010/07/public_sector_merger_case_study.pdf) accessed: 10/04/2014, p. 13.

such as the Netherland's and Spain's example shows that combining existing regulators is a workable solution. Furthermore it can be argued, that pressure is in fact a good thing: in the private sector this incentivises employees to put more efforts which results in enhanced efficiency. The same thing is likely to happen in the public sector: employees at the authority would be more urged to distinguish themselves, which ultimately leads to higher quality regulatory output.

## **5.1 Independence**

It has been established that a multi-sector regulator is more independent. Therefore a gradual approach, creating separate regulatory authorities at the starting point of the reforms and then merging them later on would mean (relatively) less independence at the beginning and more independence as the reform proceeds.

Both in the UK and Germany, the single sector regulators created at the beginning of the reform (Oftel, Offer, RegTP) enjoyed limited independence in compared to their current situation.

Ofgem, the regulator of the electricity sector in the UK currently enjoys a higher degree of independence than its predecessor, the Offer. Due to privatisation, the previously great significance of the Secretary of State for Energy has been reduced. Still, according to the Electricity Act of 1989 the Secretary of State shared powers with the independent regulator. The reason for this solution was that as the initiator of the reforms, the government would ultimately be made responsible for the mistakes of the regulator, so it retained the option of stepping in (if necessary) to balance its responsibility. In practice the Secretary of State rather delegated the

powers to the regulator and remained active mainly in policy setting.<sup>543</sup> The Electricity Act 1989 ordered the Secretary of State to appoint a Director General of Electricity Supply for a maximum of five years, but with the possibility of re-appointment. Within that period, the Secretary of State could only remove the Director from the office in case of incapacity or misbehaviour.<sup>544</sup>

While Ofgem is more independent than Offer used to be, Offer was at the time more independent than the German RegTP, however after the creation of the Bundesnetzagentur this had changed, and now the German super regulator is even more independent than Ofgem. This makes the German example even better in illustrating how regulatory mergers lead to more independence.

In Germany, the RegTP started its operation on the 1<sup>st</sup> of January 1998 as an independent agency, but under the general supervision of the Federal Ministry of Economics. The RegTP was generally responsible for market control and licensing.<sup>545</sup> It was far from being a powerful and independent authority: its competencies were severely restricted by the Competition Authority, courts, and even government interventions that occurred occasionally.<sup>546</sup> The government could simply overrule the RegTP, which is especially concerning as it has ownership interest in the incumbent, Deutsche Telekom.<sup>547</sup> As an attempt to tackle the problem of possibly conflicting interests, the RegTP was put under the supervision of the Ministry for Economic Affairs, while the Ministry of Finance was charged with

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<sup>543</sup> Martha M. Roggenkamp, Catherine Redgwell, Inigo Del Guayo, Anita Ronne (eds.) *Energy Law in Europe – National, EU, and International Regulation* (2nd edn, OUP 2007) 1178-1179

<sup>544</sup> Electricity Act of 1989, 1 The Director General of Electricity Supply

<sup>545</sup> Eberlein, Grande (2000) 49

<sup>546</sup> Coen (2005) 382-383

<sup>547</sup> *Ibid* 383

dealing with shareholding issues.<sup>548</sup> Separation was however, only done on a sub-governmental (ministerial) level, which is not necessarily enough to neutralise the incentive for promoting the incumbent. Knowing that the government has an incentive to intervene in the sector and promote Deutsche Telekom as it had a stake in it. In addition while it had the possibility to intervene, the regulator was not satisfactorily independent and as a result, other companies remained distrustful.<sup>549</sup> It was clear that the ministry had a (politically tinted) directing role over the regulator<sup>550</sup> although, the regulator showed loyalty toward consumers and against the incumbent when it prohibited Deutsche Telekom from charging a substantial fee from customers wishing to switch to a new provider which would have consequently impeded the entry of new firms.<sup>551</sup>

According to Coen, the RegTP could have become a more independent regulator: he argues that the Competition Authority is de facto headed by the Ministry of Economics. Still, intervention was rare as RegTP failed to fight this influence.<sup>552</sup> RegTP was also criticised for not withdrawing the regulation as quickly as it should have and for showing favouritism towards the incumbent.<sup>553</sup>

It is easy to see how is this justified and it can be argued that initially being more embedded in the political sphere can be seen as more beneficial.

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<sup>548</sup> Damien Geradin "Institutional Aspects of EU Regulatory Reforms in the Telecommunications Sector: An Analysis of the Role of National Regulatory Authorities " 2000 (1) Journal of Network Industries (ssrn) 14

<sup>549</sup> Coen (2005) 384

<sup>550</sup> Lodge (2002) 57

<sup>551</sup> Eberlein, Grande (2000) 50

<sup>552</sup> Ibid 384

<sup>553</sup> Lodge (2002) 57

When deciding on starting the sectors reforms, politicians essentially make a political decision. Therefore they have political responsibility, which in practice means that ultimately the citizens will blame the politicians if the reform turns out to be unsuccessful. If the politicians have to bear this risk/responsibility it would be unfair to require them to give up their powers of influencing the reform. Instead more and more independence can be given to the authority gradually, as it shows capability when dealing with its tasks.

Being more embedded in the political system can be beneficial for a regulator that lacks reputation. A newly set up authority is likely not to have a strong reputation. Within these circumstances, if the regulator does a performance in a distinguished fashion and manages to resist capture from the industry (which is likely to lead to tensions between the industry and the regulator), the firms participating in the market may find that running a campaign against the regulator is a good strategy to force the authority to act in their favour. Note that there is information asymmetry, so there is a new – virtually unknown – authority versus companies who have information on every aspect of the market. It is easy to see that firms are likely to have the opportunity to make the authority look incompetent in the eyes of the citizens, who are ultimately going to show their dissatisfaction towards the government (because in most cases the director/board of the authority is not elected directly). When the authority is close to the government/ministry the reputation of the government is in a sense extended to the authority, thereby, such a strategy is less viable.

Concerning regulators not being adequately independent at the beginning of the reform, the literature mentions that this can set back privatisation. Without a clear signal of giving up political interference with the sectors, privatisation may cause investors to under-value the business opportunity. However, the priority at the start of the reform should be the creation of a well-functioning market and not by maximising the one-time revenue achieved by privatisation. Furthermore, this effect can be mitigated by multi-step privatisation; the government can initially sell

a minority share of the incumbent, and then when the regulator achieves a good reputation of being independent, sell the rest of the shares.

## 5.2 Accountability

Following on from the arguments above, accountability is less important at the initial stages of the reform, but becomes crucial in later stages.

When the regulator's independence is limited, there is less potential for it to deviate from the goals set to it and to start working for its own interests. A single sector regulator – such as what was created initially in both the UK and Germany – tends to be less complex structurally which helps aids in its transparency. Single sector authorities are also less powerful (in compared to multi-sector regulators) vis-à-vis the political sphere and therefore, are less likely to ignore their duties concerning to accountability.

Accountability however, becomes vastly more crucial the more single sector regulators are merged to form a multi-sector regulator. The UK's currently operating merged regulators; Ofgem and Ofcom are still only responsible for the regulation of a fragment of the economy. But through the regulation of the electricity, gas, telecommunications, postal and railway sectors, Germany's Bundesnetzagentur is a key entity when it comes to the German economy. The findings of Hanretty et. al. namely that the Bundesnetzagentur is less accountable than the British regulators<sup>554</sup> suggest that Germany did not realise that the creation of such a multi-sector regulator should go hand in hand with rules providing for enhanced accountability, to maintain the balance between accountability and independence.

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<sup>554</sup> Larouche et. al. (2012) 49

### 5.3 Capture

It has been discussed that a single-sector regulator is less capable of resisting capture than a multi-sector regulator. Therefore, creating single sector regulators at the beginning of the reform would mean that as far as the institutional setup is concerned the regulator is less capable of tackling this issue.

However, capture does not seem to be a big threat at the beginning of the reform so in practice, establishing a single sector regulator may be an adequate solution.

As it has been presented earlier, capture does not happen all at once, but it is rather a process. It takes time to establish information links and trust between the authority and the industry that can lead to the mutual understanding that by 'working together' and avoiding conflicts; it can lead to a less turbulent relationship for both of the industry and the authority. It also takes time after the privatisation of the incumbent until the personnel of the authority starts integrating with labour coming from the liberalised industry.

Furthermore, a connection between independence and capture has demonstrated that regulatory authorities tend to be less independent at the beginning of the reform and this may help avoid capture. Also supporting this view is that extra measures – such as a multi-sector structure – are less important in avoiding capture in the initial phases of the reform process.

The above mentioned arguments also show that in the latter stages, capture of the regulators becomes more of a threat. Once links (both information and personal) between the regulator and the regulated firms get into a more developed stage, there is a strong case for the creation of a multi-sector regulator. An additional benefit of merging the regulators in terms of avoiding capture is that by merging regulators, the setup is likely to change. Reorganisation potentially leads to changing the people occupying different positions at the regulator. Such shuffling

of personnel leads to the destruction of personal links meaning that the process that can lead to capture may be nullified.

## 5.4 Regulatory quality

There is an inevitable trade-off between sector-specificity, coherent regulation<sup>555</sup>, flexibility and regulatory certainty.<sup>556</sup>

It has been established that multi-sector regulators are less able to accommodate for the different needs of the different sectors. At the start of the reforms, different sectors tend to have different features (from a regulatory perspective). This means that initially, the creation of a single sector regulator is much more beneficial as it only focuses only on one sector. Creating a multi-sector regulator right at the beginning might lead to the domination of one-or-the-other regulatory branch and therefore, regulatory approach. If that happens, the special requirement of a certain sector (that is not dominant within the authority) is likely to be disregarded. Even if one regulatory branch does not become dominant, on higher levels, there is likely to be less industry-specific expertise. Solutions worked out on lower levels, which would suit a certain sector well, might get overturned on higher level because of less sector specific expertise.

A multi-sector regulator provides more opportunity for the “branches” regulating different sectors to learn techniques from each other.<sup>557</sup> To what extent this offers real benefits, depends on the developments in the sectors or more precisely,

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<sup>555</sup> Kerft, Geradin (1999) 1013

<sup>556</sup> Ibid 1014

<sup>557</sup> Smith (1997) 1

whether the sectors have reached a stage of convergence<sup>558</sup> where separate regulation can result in conflicting and undefined policy goals.<sup>559</sup> This might well mean, that it is rather advantageous to set up separate regulators at the beginning of the reforms and only assimilate them into a multi-sector regulator once it is clear that the sectors reached a state of similarity, where there is a potential for creating a more efficient authority due to regulatory synergies.

Another argument backing this theory is that in the early stages, it is advantageous to have more than one authority as different regulatory solutions can be tested.<sup>560</sup> However, there should be a time when these solutions have produced enough track records to enable their assessment. After the assessment has proven the superiority of one or the other, there is no further need to maintain the less efficient practice: a multi-sector regulator can be created incorporating the best regulatory solution(s) tested.<sup>561</sup>

The timely operation of the regulator is also relevant regarding the regulatory quality. There can be an issue in this respect when setting up a multi-sector regulator. Some sectors may be regulated already by a regulator while others may not be (or may be under ministry supervision). A political decision has to be made on the means of creating the regulator, either by merging the entities or creating a complete new structure. In any case, creating sufficiently independent regulators can already be problematic since the ministries may view them as an instrument to reduce their powers. As more ministries are likely to take part, the number of potentially arising issues setting back the process is higher.<sup>562</sup>

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<sup>558</sup> Larouche (2004) 283

<sup>559</sup> Jordana, Levi-Faur (2010) 346

<sup>560</sup> Larouche (2004) 280, Smith (1997) 2

<sup>561</sup> Kerft, Geradin (1999) 931

<sup>562</sup> Schwarz, Satola (2000) 31-32

Both the creation and operating of a multi-sector regulator is likely to be slower, which can set back the whole reform process initially.<sup>563</sup>

The case is much different when it comes to a more developed stage of the reforms. A history of independent regulators can eliminate the potential issues arising out of ministerial gaming. The convergence seen between different industries through their evolution (such as telecommunications and broadcasting) and mergers between firms in different industries offering bundled services (such as gas and electricity) can make a compelling case for merging regulators through practical efficiency gains.<sup>564</sup>

## 5.5 Costs

In terms of efficiency, it has to be noted that although one of the main reasons for creating multi-sector regulators in Third World countries is to save costs, the operation of a multi-sector regulator is might not necessarily be more cost-efficient than a single-sector regulator. It has been mentioned that Ofcom's operation turned out to cost more than the authorities whose tasks has been overtaken by Ofcom all together – although other tasks were added as well, which might explain the enhanced costs.

Even if it is still accepted that regulation costs more initially because of the creation of several authorities instead of one, high costs would be justified since the workload is expected to be higher at the beginning as competition takes time to consolidate and discipline the firms automatically.<sup>565</sup> At the same time these

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<sup>563</sup> Walden, Angel (2001) 511

<sup>564</sup> Ibid

<sup>565</sup> Kessides (2004) p 100

reforms are likely to start with privatisation, and when privatisation is done properly the government is likely to have the additional funds necessary for financing several authorities at the beginning.

## 6 Timing the merger

We have shown that merging the regulators *per se* affects its independence, accountability, flexibility and predictability, cost effectiveness amongst other features. We have also shown that as a general method (and if financial constraints are not prohibitive), it is beneficial to set up different authorities at the beginning of the reforms and then merge them later on. The next question is when should these mergers take place, and what should be the most decisive factors to trigger a merger?

It is helpful, to approach the question by looking at the pros of a multi-sector regulator:

- Independence: We have shown that it is beneficial to gradually enhance independence during the reform process, but what is the best way to for it? According to the literature, merging the regulator should enhance its independence yet, independence primarily depends on other safeguards in regulation (financing of the authority, election/withdrawal rules etc.). This suggests that enhancing independence can be carried out by changing these rules as there is no need to change the structure of the regulator.
- Enhanced resistance to capture: It has been discussed how capture takes time to develop, which means that resistance towards capture should be enhanced during the reform process and merging the regulator can be helpful in this respect. At the same time capture cannot be used to define the appropriate time of the merger, because by definition capture is a hidden process. If we could detect capture easily, than it could probably be tackled by some means but normally, capture is only detected in hindsight.

- Enhanced cost effectiveness: This chapter took a sceptical approach towards the enhanced cost effectiveness of multi-sector regulators. We have shown that whether merging the regulators could result in lesser costs largely depend on the excess capacities in the authorities, and on the potential to use this excess capacity by other means. However, when it can be shown that there is a clear potential for costs saving on this basis, structural change may be a good solution.
- Enhanced innovativeness, consistency and less conflicting interests are discussed together because their relevance seemed to depend largely on the state of convergence between the sectors. As long as the sectors are completely different it is hard to see why similar solutions would be appropriate. In addition, consistency and conflicting competencies seem to be issues that are irrelevant as long as the sectors (and the companies in the sectors) have no connections.<sup>566</sup> At the same time these connections should be quite visible (and may cause practical problems) therefore, they can be used to time the mergers.

The regulatory mergers of the UK are good examples of how the above mentioned features can be useful indicators of timing the merger. There have been different types of convergence<sup>567</sup> between the electricity and gas sectors (firms started operating in the other sectors although the markets are largely still separate) and also between the different telecommunications markets.<sup>568</sup> Merging the regulators was therefore justified on this basis. Costs saving were also expected to arise out of the mergers and although the costs turned out to be higher, this does not mean

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<sup>566</sup> Larouche (2004) 282

<sup>567</sup> Geradin (2001) 117-118

<sup>568</sup> Larouche (2004) 282

that the benefit/cost ration was not enhanced.<sup>569</sup> The same cannot be said in terms of Germany, e.g. there were no visible connections between the electricity and telecommunications sector. Until such connections start to develop (which may happen in the future<sup>570</sup>), there is no strong case for the UK to follow the German example unless perhaps cost effectiveness can be shown to be enhanced through such a merger.

## 7 Conclusion

Currently, one of the key legal differences between the electricity and telecommunications reforms in the UK and Germany is in the way they set up their regulators. The British regulators were essentially responsible for one sector only: Ofgem for energy and Ofcom for electronic communications however, these are already merged entities. In contrast, Germany operates a real multi-sector regulator. Besides energy and communications, the Bundesnetzagentur is responsible for rail and postal regulation. Other EU member states such as Spain and the Netherlands not only followed the German example but had taken it further, merging the Competition Authority with the combined sector regulator.

From this follows the first question this paper aims to answer: are countries creating multi-sector regulators because they are superior?

To answer the question, the paper first looks at the history of regulatory institutions as described in the UK and Germany. Then, it sets up a framework

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<sup>569</sup> CF Ofcom, 'A case study on public sector mergers and regulatory structures' (2006) available at: [http://www.ofcom.org.uk/files/2010/07/public\\_sector\\_merger\\_case\\_study.pdf](http://www.ofcom.org.uk/files/2010/07/public_sector_merger_case_study.pdf) accessed: 10/04/2014, p. 4

<sup>570</sup> Geradin (2001) 117-118

consisting of regulatory independence, accountability, capture and other relevant features to provide a structure for the analysis. The paper answers the first question by analysing these institutions within this pre-set framework. This analysis shows that the institutional models have different strengths and weaknesses, but it does not show the clear superiority of any of the institutional models.

As a static approach did not help in explaining the trend of creating multi-sector regulators itself, the findings of the research (the pros and cons) are analysed in a dynamic context. The reform process is expected to result in economic (development of competitive markets), technological (enhanced innovation) etc. changes. Since the regulator has to operate in a dynamically changing environment, it is logical that the regulation will potentially have to change as well to maintain optimal operation.<sup>571</sup> This potentially involves changes in the institutional structure.

Taking the analysis forward, the paper describes the likely challenges a regulator faces early on in its life cycle and the way these challenges are likely to change as the market matures. The paper compares the different in the challenges coping with the changes of strengths and weaknesses that arise out of merging the regulators. The analysis finds that the two matches up: the strengths and weaknesses of a single sector regulator provides more benefits at a lesser cost initially however as the market matures, this is likely to change and merging regulators into multi-sector regulators becomes more beneficial.

Our analysis suggests that regulatory mergers should mirror the convergences between the sectors. On this basis it can be established that regulatory mergers in the UK are justified, but there it is not necessary to follow the German example and merge the energy and telecommunications regulators. As long as there is no visible

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<sup>571</sup> Stéphane Jacobzone, Chang-Wong Choi, Claire Miguet, 'Indicators of Regulatory Management Systems' OECD Working Papers on Public Governance 2007/4, available at <http://www.oecd.org/gov/regulatory-policy/39954493.pdf> accessed 08/03/2014, p 8.

convergence between these sectors, the creation of a super regulator (like in Germany) is not justified in the UK unless perhaps excess capacities in one regulator could be used at the other, making regulation less costly.

## V. Chapter 4: Introducing SMP regulation to the electricity sector of the UK

### Abstract

Significant Market Power (SMP) regulation is generally used in the telecommunications sectors of the EU to handle the transition period after liberalisation until competition becomes strong enough, when competition law in itself may be insufficient to control the incumbents' retained market power. Interestingly, this solution has not been applied in the competitive levels of the EU electricity sectors (except in Hungary). Considering that there is growing political pressure in the UK for some kind of an intervention in the electricity sector, this chapter analyses whether SMP regulation could be a solution, or whether it only fits to the telecommunications sector.

The chapter starts by describing how SMP regulation works in the telecommunications sector, then based on the existing literature the main pros and cons of it are described.

In the next part the chapter describes how SMP regulation could be used in the electricity sector. This is based on the Hungarian experience, which is contrasted to the situation in the UK. The differences between the electricity and the telecommunications sector relevant to SMP regulation are also considered (in light of the pros and cons described earlier).

Ultimately the chapter compares SMP regulation to some other alternative solutions (competition law, government intervention, ordinary regulation) and finds that SMP regulation can be a potential alternative.

# 1. Introduction and motivation

The electricity reform of the UK has been debated throughout the reform process by academics.<sup>572</sup> More recently debate on the competitiveness of the energy industry has reached the highest political levels: the UK government<sup>573</sup> (as well as the opposition<sup>574</sup>) started expressing its dissatisfaction towards the way the electricity sector operates in the UK, which has been followed by further price-rises.<sup>575</sup> In June 2014, Ofgem referred the energy market for a full competition investigation to the new competition authority, the CMA.<sup>576</sup>

This is happening, albeit the UK electricity sector seems to be one of the most competitive in the EU,<sup>577</sup> which suggest that the electricity reforms throughout the

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<sup>572</sup> John A. Anderson, 'Electricity Restructuring: A Review of Efforts around the World and the Consumer Response' 2009 (22) *The Electricity Journal*, 70

<sup>573</sup> 'Millions to see energy bills fall after David Cameron promises tariff reform' *The Telegraph*, available at: <http://www.telegraph.co.uk/finance/personalfinance/consumertips/household-bills/9616124/Millions-to-see-energy-bills-fall-after-David-Cameron-promises-tariff-reform.html> accessed: 22/04/2013,

<sup>574</sup> 'Ed Miliband: Labour would freeze energy prices' *BBC*, available at: <http://www.bbc.co.uk/news/uk-politics-24213366> , accessed: 24/10/2014

<sup>575</sup> *BBC Online*, 'British Gas to raise prices by 9.2%' available at: <http://www.bbc.co.uk/news/business-24562930> accessed 17/10/2013, *BBC Online*, 'SSE to raise gas and electricity prices by 8.2%' available at: <http://www.bbc.co.uk/news/business-24465979> accessed 17/10/2013, *BBC Online*, 'Co-operative Energy prices to rise by 4.5%' available at: <http://www.bbc.co.uk/news/business-24579935> accessed: 18/10/2013,

<sup>576</sup> *CF Ofgem*, 'Ofgem refers the energy market for a full competition investigation' available at: <https://www.ofgem.gov.uk/press-releases/ofgem-refers-energy-market-full-competition-investigation> accesset: 08/10/2014

<sup>577</sup> 'Business, Enterprise & Regulatory Reform Committee Inquiry: possible anti-competitive behaviour in the UK's energy market' (2008) Memorandum from the Energy Intensive Users Group available at: <http://www.eiug.org.uk/publics/I010408w1.pdf> accessed:

EU are probably failing to deliver the benefits expected from it. This alone suggests that rethinking the reform process and the way forward – a solution – is justified.

The UK government seems to have decided to act in the matter,<sup>578</sup> however, there seem to be scope for suggestions on what sort of intervention would be the most appropriate.

This chapter analyses whether the electricity regulation could learn from the telecommunications regulation by adopting a concept similar to SMP regulation. The chapter compares SMP regulation to other potential alternatives to see whether it can provide a better solution.

The reasons to focus the analysis to the applicability of SMP regulation in the electricity sector, is that one of the main differences between the telecommunications and the electricity regulation is that while the former uses SMP regulation in the latter we do not find such a concept.<sup>579</sup>

While the telecommunications reforms are far from being perfect, there is a view that they are more successful than the electricity reforms.<sup>580</sup> As an illustration, according to Watson “[i]t is clear from a number of statements made by the European Commission and other community institutions that the liberalisation and harmonisation processes and the 2002 framework are considered to be a true

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22/04/2013, para 7, CF Georg Zachmann, ‘A Markov Switching Model of the Merit Order to Compare British and German Price Formation’ 2007 DIW Berlin Discussion Papers, available at: [http://www.diw.de/documents/publikationen/73/diw\\_01.c.61917.de/dp714.pdf](http://www.diw.de/documents/publikationen/73/diw_01.c.61917.de/dp714.pdf) accessed: 25/04/2013

<sup>578</sup> ‘Cameron’s energy policy plans ‘unravel’’ 2012 Financial Times available at: <http://www.ft.com/cms/s/0/840ac476-1911-11e2-af88-00144feabdc0.html#axzz2RwtaL2eP> accessed: 30/04/2013

<sup>579</sup> Except for in Hungary.

<sup>580</sup> See Chapter 1

success story for the work of the EU”<sup>581</sup> and “[t]here are powerful suggestions (...) that this process should be seen as a benchmark for other industrial sectors and their development within the EU.”<sup>582</sup>

As part of the reform Significant Market Power (SMP) regulation has been used to regulate the telecommunications sector since 1997.<sup>583</sup> According to Doherty, “[a]t the heart of the telecommunications directives is the concept of “significant market power””.<sup>584</sup>

The telecommunications reforms started before the other sectors’ reforms both in the UK and in the EU, therefore it was the “core laboratory world-wide”.<sup>585</sup> The electricity reform follows the telecommunications reform – lagging a few years behind – hence, there is a theoretical potential to learn from it; implementing solutions that turned out to be useful there.

Whether that potential can be materialised in practice is a matter of similarity between the electricity and the telecommunications sector, which is ultimately a limitation of the previous argument. Regulatory solutions that work well in the telecommunications sector might not be suitable for electricity simply because they have different features. Hence, similarities and differences of features relevant from the regulation’s perspective are crucial when trying to draw conclusions out of

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<sup>581</sup> Chris Watson, ‘2007 review of the 2002 European telecommunications directives’ 2007, 13(4) *Computer and Telecommunications Law Review*, 130

<sup>582</sup> *Ibid*

<sup>583</sup> Directive 97/51/EC of the European Parliament and of the Council of 6 October 1997 amending Council Directives 90/387/EEC and 92/44/EEC for the purpose of adaptation to a competitive environment in telecommunications

<sup>584</sup> Barry Doherty, ‘Competition law and sector-specific regulation’ 2001, 7(8) *Computer and Telecommunications Law Review*, 226

<sup>585</sup> Emanuele Bacchiocchi, Massimo Florio, Marco Gambaro, ‘Telecom reforms in the EU: Prices and consumers’ satisfaction’ 2011 (35) *Telecommunications Policy*, 382

an inter-sectorial comparison. Furthermore, a dynamic view is essential when comparing the relevant features as throughout the reform process these different network utilities may change considerably.

It has to be noted, that in terms of the competitive levels of the electricity sector of the UK this would in a sense mean re-regulation – taking one step back – however, this practice would be far from unprecedented: it has been used in the (by nature more competitive) telecommunications sector for example in Sweden.<sup>586</sup>

## 2. What is SMP regulation

The essence of SMP regulation lies in its special regulatory process. Hence, it would seem that the best way to describe SMP regulation – which is essential to give a basis for the forthcoming analysis – is to describe the process itself.

SMP regulation is carried out in a three step process. It has to be noted at the beginning that SMP regulation is not a one-time process but it is a cycle where the same process is carried out again and again,<sup>587</sup> as the following:

- The market concerned is defined. This can be quite burdensome in a sector like telecommunications due to rapid technological changes.<sup>588</sup> Under SMP regulation the market definition is done in two sequences. Firstly, based on competition law principles, the Commission issues a recommendation defining the product and service markets that – due to their features – are likely to qualify for regulatory intervention. Secondly, taking into account the Commission's recommendation on relevant markets and the Commission

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<sup>586</sup> Lars Hultkrantz, 'Telecommunications liberalisation in Sweden: Is "intermediate" regulation viable?' 2002 (9) Swedish Economic Policy Review, 135

<sup>587</sup> De Streel (2003) 538

<sup>588</sup> SMP Guidelines para. 33

Guidelines on market analysis, the national authorities tailor the market definition according to the national circumstances.<sup>589</sup> There is a conceptual difference between market definition in competition law, where this done focusing on a hypothetical monopolist and then substitutability of the firm's products are assessed from the consumers' perspective,<sup>590</sup> while in SMP regulation the sector is segmented with the aim to find the problem areas.<sup>591</sup>

- The firms present in the market are scrutinised and (if there is any) the one(s) that have significant market power are appointed as SMP operators. This can be done in two ways:
  - a firm can be declared to have SMP by a rather quantitative method: that would require the legislation to define a clear threshold (eg. above 25% market share – as defined by the pre-2003 system)
  - or by a more qualitative method, after market analysis, which means a complete market dominance investigation is carried out, searching for firms having a single or joint dominant position, taking into account all the relevant factors that are assessed under competition law (post-2003 system).<sup>592</sup>
- Lastly, the appropriate measures are applied. This can go in two directions depending on whether dominance is found or not. In case there is no dominance the appropriate measure is to apply no measure, which – in case there has been past dominance issues – means withdrawing all previously applied measures. If the regulator finds a dominant operator it has to apply at

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<sup>589</sup> De Streel (2003) 537

<sup>590</sup> Pierre Larouche, 'Relevant market definition in network industries: air transport and telecommunications' (2000) 1 *Journal of Network Industries*, 407, 442

<sup>591</sup> Pierre Larouche, 'A closer look at some assumptions underlying EC regulation of electronic communications' (2002) 3 *Journal of Network Industries*, 129, 137 and 144

<sup>592</sup> De Streel (2003) 537

least one remedy. The remedy should be chosen according to the nature of the identified shortcoming in terms of effective competition, internal market, and interests of the European citizens. The remedy also has to be proportionate. The Access Directive<sup>593</sup> provides an ascending list of behavioural remedies:

- transparency,
- non-discrimination,
- accounting separation,
- access to facilities, and
- price control,
- other remedies (potentially even structural ones) can also be chosen, in exceptional circumstances, with the Commission's agreement.<sup>594</sup>

While the process is carried out by the national regulator the Commission reviews all the decisions that may affect trade between member states and has the right to veto a market definition that does not fit the recommendation or an SMP designation, or issue (non-binding) opinion on the preferred remedy option.<sup>595</sup>

De Streel calls SMP regulation "the hybridisation of the sectoral regulation by competition law".<sup>596</sup> This is because SMP regulation is conceptually half way between ordinary regulation and competition law. Also in the deregulatory process (at least in the telecommunications sector) SMP regulation falls between regulation and competition since it is aimed to control the market power until competition

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<sup>593</sup> Directive 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities

<sup>594</sup> De Streel (2003) 537-538

<sup>595</sup> *Ibid* 538

<sup>596</sup> *Ibid* 535



The SMP process is in many respects similar to the way an alleged abuse of dominance case is handled under competition law. In both instances the market is defined according to the same principles, then – having defined the market – the next task is to assess market power (“market dominance”). At the same time the SMP guidelines notes that having SMP does not mean that the company has dominance or that the company breached competition law (Para 30).

SMP regulation is applied ex-ante like regulation but has a defined addressee like in competition law cases (although regulation can be alike). Also, the role of the sector regulator is of major importance (although the competition authority has concurrent powers).

The further dissimilarities essentially arise out of the ex-ante nature of SMP regulation which at the same time makes it similar to ordinary regulation. While according to general competition law, dominance itself is not objectionable (an abuse has to be proven as well), in terms of SMP regulation the simple finding of SMP may trigger legal consequences. This means that the burden of proof is much lower on the regulator applying SMP regulation<sup>598</sup> than on the competition authority applying competition law.<sup>599</sup> The reason for this arrangement is that in

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<sup>597</sup> Damien Geradin, ‘Regulatory issues raised by network convergence: the case of multi-utilities’ (2001) 2 *Journal of Network Industries*, 113, 113-114

<sup>598</sup> Larouche (2002) 129, 136

<sup>599</sup> De Streel (2003) 541

newly liberalised markets it would be probably too late to enforce consequences after the abuse: it would not be sufficient to promote competition.<sup>600</sup>

## 2.1 The pros of SMP regulation

Having discussed the special features of SMP regulation, in the next step the benefits arising out of this unique arrangement are analysed. It has been shown that since the concept of SMP regulation is approximately in the middle between (ordinary) regulation and competition law; the benefits of SMP regulation are also a mix of benefits of regulation and competition law, which makes it suitable for areas where competition is under development.<sup>601</sup>

The literature assessing and criticising SMP regulation is well advanced, some of the issues are widely debated (for example the connection between SMP regulation and de-regulation, or legal certainty). The following section builds on this literature, including the debated areas, in order to give an overview of the major pros and cons of the concept.

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<sup>600</sup> Ian Lloyd, David Mellor, *Telecommunications Law* (Elsevier 2003)

<sup>601</sup> Paul Brisby, 'The regulation of telecommunications networks and services in the United Kingdom' 2006, 12(4) *Computer and Telecommunications Law Review*, 117

## Flexibility

In the conclusions of the report of the 1994 Corfu Summit, the Heads of State and Government in the European Council talked about “current unprecedented technological revolution in the area of information”.<sup>602</sup>

It seems to be clear from the Green Paper on the Liberalisation of Telecommunications Infrastructure and Cable Television Networks that while preparing the regulation governing the reform process the Commission aimed for as much economic freedom (competition) as possible, because they thought it is essential to accommodate to this “unprecedented technological revolution” in the telecommunications sector:

“Telecommunications is a domain that is characterised by constant change and rapid technological progress. It is only in a free and open environment, driven by market forces, that enterprises can achieve the degree of flexibility necessary if they are to react quickly to new developments and adapt to them.”<sup>603</sup>

Flexibility, however, had to be achieved while also maintaining a high level of legal certainty<sup>604</sup> as the Commission forecast that “[i]nvestment will not be forthcoming unless a clear and stable regulatory framework is promptly established”.<sup>605</sup> The

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<sup>602</sup> European Council, ‘Presidency Conclusions’ (Corfu) available at: [http://www.consilium.europa.eu/uedocs/cms\\_data/docs/pressdata/en/ec/00150.EN4.htm](http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/00150.EN4.htm) accesse: 14/10/2013, l. 4.

<sup>603</sup> European Commission, ‘Green Paper on the Liberalisation of Telecommunications Infrastructure and Cable Television Networks’ COM (94) 440, 6

<sup>604</sup> Brian Levy and Pablo T. Spiller, ‘The Institutional Foundations of Regulatory Commitment: A Comparative Analysis of Telecommunications Regulation’ (1994) 10 (2) *Journal of Law, Economics, & Organization*, 201, 202 and 207

<sup>605</sup> European Commission, ‘Green Paper on the Liberalisation of Telecommunications Infrastructure...’ (1994) 6

regulators can rely on the competition cases which promotes legal certainty while remaining flexible.<sup>606</sup>

The need for a rather special type of regulation seemed to have been well understood. SMP regulation has been an integral part of telecommunications regulation since the beginning of the reforms, although it went through considerable change.

The SMP procedure is carried out normally in a pre-set time period, but can also be triggered independently by any circumstance that is significant from the SMP regulation's perspective. This latter is extremely important as regulation in general is often criticised for moving slowly, which is a huge issue in such a fast-changing sector as telecommunications.<sup>607</sup>

Flexibility under the 2003 system is enhanced as the previous +25% market share threshold essentially meant that all incumbents should be under some form of regulation, which has been removed, giving more freedom to the regulatory authority. The system is also more flexible than ordinary regulation. Under SMP regulation a firm can be regulated, de-regulated and re-regulated by the regulator on the sole basis of finding SMP, which then enables the regulator to issue remedies, while for example under the British system of regulation the licensee had the right of refusing to accept the modification of its license<sup>608</sup> which meant that the regulator had to basically bargain with the licensee instead of regulating it.

Under SMP regulation both the circle of SMP firms and the obligations prescribed can be changed flexibly as necessary, while staying within a pre-set framework. Thereby, from a legal perspective it meets the requirement of certainty and from

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<sup>606</sup> Larouche (2002) 129, 136-137

<sup>607</sup> Brisby (2006) 114

<sup>608</sup> Brisby (2006) 119

an economics perspective it does not enhance risks. Certainty under SMP regulation is higher than competition law simply as it is an ex-ante solution.<sup>609</sup> Under competition law the competition authority only establishes that a certain action was a breach of law retrospectively, before that – depending on the actual case – the firm can be less confident about the consequences of their actions. Government interventions can be even more extreme and pose a much bigger threat to legal certainty. They can make a huge and unexpected impact, thereby the simple potential of that raises the risks factor of an industry.

The certainty of SMP regulation is, however, somewhat reduced by the fact that SMP regulation does not suspend the applicability of competition law. Perhaps the Deutsche Telekom case serve as a good illustration for this arrangement reduces certainty. The Deutsche Telekom claimed that since its access prices are regulated, its pricing practice cannot be regarded as margin squeeze under competition law, but the Court of Justice dismissed this argument.<sup>610</sup>

### **Asymmetric application**

According to Blankart et. al. “EU telecommunications policy has been strongly influenced by asymmetric market power regulation with an intrinsic bias against incumbent carriers”.<sup>611</sup>

The obligations prescribed under SMP regulation does not concern all the market participants, but only the one(s) having SMP. This creates an asymmetry between

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<sup>609</sup> *Ibid* 127

<sup>610</sup> Deutsche Telekom AG v European Commission (C-280/08 P) [2010] 5 C.M.L.R. 27.

<sup>611</sup> Charles Beat Blankart, Gunter Knieps and Patrick Zenhausern, ‘Regulation of new markets in telecommunications: market dynamics and shrinking monopolistic bottlenecks’ 2007, 8(3) European Business Organization Law Review 418

the companies in the market<sup>612</sup>: SMP firms have to face additional burdens while their competitors enjoy maximum liberty. Such treatment is discriminatory, however in practice the potential of these firm(s) of engaging in anti-competitive behaviour – that is not present at the other firms – probably justify their discrimination.<sup>613</sup>

This feature of SMP regulation seems to be similar to the logic of how competition law deals with abuse of dominance issues: if a company is dominant it has a “special responsibility”, however, under competition law an abuse needs to be proven before any action.<sup>614</sup>

It has to be noted that ordinary regulation may be asymmetric as well. For example under the Telecommunications Act 1984 regulation has been carried out through licences; most licences issued were fairly similar but BT’s licence has contained many different conditions.<sup>615</sup> However, asymmetry is not an essential feature of ordinary regulation, while in SMP regulation – based on the discrimination of firms having SMP – it is integral part of system.

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<sup>612</sup> Damien Geradin, ‘Institutional aspects of EU regulatory reforms in the telecommunications sector: an analysis of the role of national regulatory authorities’ (2000) 1 *Journal of Network Industries*, 5, 13, Damien Geradin, Robert O'Donoghue, ‘The concurrent application of competition law and regulation: the case of margin squeeze abuses in the telecommunications sector’ (2005) 1 (2) *Journal of Competition Law and Economics*, 355, 362, CF Geradin (2001) 116

<sup>613</sup> CF Leigh Hancher, Pierre Larouche, Saskia Lavrijssen, ‘Principles of good market governance’ (2003) 4(4) *Journal of Network Industries*, 355, 367

<sup>614</sup> Geradin, O'Donoghue (2005), 362

<sup>615</sup> Brisby (2006) 115

## **Facilitates innovation**

Regulation in practice can mean setting many different obligations; however every obligation essentially puts some burden on the firms' behaviour. This burden may restricts the firm's ability to expand into new directions and ultimately to come up with innovative solutions. A good example is telephone handsets: after regulation was lifted their development accelerated considerably.<sup>616</sup>

SMP regulation enables focusing the regulation to SMP firms only. Non-SMP firms enjoy maximum liberty, which in itself has the side effect of enabling innovation.

## **Stronger than competition law**

Competition law aims to protect the competitive market structure in order to promote economic efficiency, while SMP regulation has an enhanced toolkit which can be used to correct market imperfections.<sup>617</sup>

Besides, SMP regulation is carried out by a sector regulator. While competition authorities have an oversight of the whole economy and they assess issues on a case-by-case basis, sector regulators have a different focus. They are closer to the industry because they regulate it on a permanent basis.<sup>618</sup>

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<sup>616</sup> WTO Department of Trade & Industry, 'Communications Liberalisation in the UK' available at: [http://www.wto.org/english/tratop\\_e/serv\\_e/symp\\_mar02\\_uk\\_com\\_e.pdf](http://www.wto.org/english/tratop_e/serv_e/symp_mar02_uk_com_e.pdf) accessed: 30/04/2013, 10

<sup>617</sup> Geradin, O'Donoghue (2005), 425

<sup>618</sup> Michel Kerft, Damien Geradin, 'Controlling market power in telecommunications: antitrust vs. sectorspecific regulation - An Assessment of the United States, New Zealand and Australian Experiences" (1999) 14 (919) Berkeley Technology Law Journal, 919, 929

Further benefits arise out of SMP regulation being similar to regulation, as it is applied ex-ante too (although some of the competition law decisions are made on an ex-ante basis, and some regulatory decisions have ex-post characteristics as well<sup>619</sup>).

SMP regulation's ex-ante nature enables it to *prevent* anti-competitive behaviour and not just *react* to it.<sup>620</sup> This is reflected by the SMP Guidance stating that "ex-ante obligations on undertakings designated as having SMP is to ensure that undertakings cannot use their market power either to restrict or distort competition on the relevant market, or to leverage such market power onto adjacent markets" (para. 16). This makes an important difference in markets where dominant firms notoriously engage in anti-competitive actions: firms harmed by such practice cannot be fully compensated by an ex-post intervention because the volume and frequency of the unlawful conduct can still impede them setting their feet and growing in the market. Additionally, it is implicit from the National Carbonising case<sup>621</sup> that dominant companies are not required to compensate their competitors for the disadvantages they may be under based on competition law.<sup>622</sup> The possibility of wider actions against it – in case they abuse their market power – may be an additional deterring factor for the incumbents.<sup>623</sup>

SMP regulation is useful in sectors where competition law would be inefficient to handle market power issues<sup>624</sup> due to the reoccurring need for intervention.<sup>625</sup> This

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<sup>619</sup> Larouche (2002) 129, 131-132

<sup>620</sup> Ian Dobbs, Paul Richards, Innovation and the new regulatory framework for electronic communications in the EU' 2004, 25(11) European Competition Law Review, 718

<sup>621</sup> National Carbonising Company Decision 76/185 [1976] OJ L 35/6

<sup>622</sup> Geradin, O'Donoghue (2005) 361-362

<sup>623</sup> *Ibid* 364

<sup>624</sup> De Streel (2003) 535

is particularly the case in markets where there is high barriers to entry, where compliance requirements of intervention are high, frequent and/or timely intervention is indispensable, or where legal certainty is of utmost importance.<sup>626</sup>

### **Facilitates entry**

This issue is heavily connected to the previous one. The mere potential for incumbents engaging in exclusionary practice may deter entry. Competition law only applies after an abusive conduct has been carried out and a remedy is only issued after the legal process has been carried out. The length of this process can vary; procrastination however, can result in the inability of issuing an effective remedy for example when – due to exclusionary practices – the firm has already been forced out of the market. Being aware of the lack of effective protection in such instances firms may not even try to enter. Under SMP regulation this problem can be solved as the remedy is present before the abuse.

### **Facilitates competition and de-regulation**

Under SMP regulation the regulatory authority can take pro-active measures to create competition, including ones that reduce the ability of the incumbent to compete.<sup>627</sup>

Facilitating de-regulation is perhaps the most important – at the same time debated – feature. In a sense all the previous features connect to this as they

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<sup>625</sup> *Ibid* 542

<sup>626</sup> De Streel (2003) 538

<sup>627</sup> Geradin, O'Donoghue (2005) , 363

facilitate competition, which is the ultimate aim.<sup>628</sup> The Framework Directive<sup>629</sup> sets out different aims, such as: the promotion of competition (Art.8.2), the development of the internal market (Art.8.3), and promotion of the interests of citizens of the EU (Art.8.4), while there is no hierarchy set by the directive, in practice the promotion of competition seems to be in the centre.<sup>630</sup>

Although SMP regulation is often claimed to be about de-regulation, the 2003 rules rather brought re-regulation<sup>631</sup> which, however, promoted competition. Ex-post competition law is rather only capable of prohibiting the abuse of dominance, it will not eliminate dominance and facilitate competition. For that, ex-ante regulation is needed.<sup>632</sup>

When competition is strong enough there is no need for ex-ante intervention any more<sup>633</sup> therefore it has to be withdrawn to provide as much space as competition as possible.<sup>634</sup> On this basis, deregulation is an objective of the reforms concerned and SMP regulation is a good tool for that as it is on the borderline of regulation and competition law. SMP regulation is automatically withdrawn once the assessment finds no SMP.<sup>635</sup> As the concepts of SMP regulation and competition

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<sup>628</sup> See: S. C. Littlechild, 'Regulation of British Telecommunications' Profitability' (HMSO, London, 1983), para.4.11

<sup>629</sup> Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services

<sup>630</sup> Dobbs, Richards (2004) 718

<sup>631</sup> Brisby (2006) 119-120

<sup>632</sup> Dobbs, Richards (2004) 718

<sup>633</sup> Geradin, 'Institutional aspects...' (2000) 24

<sup>634</sup> CF De Streel (2003) 535

<sup>635</sup> Brisby (2006) 128

law are essentially the same since 2003, the transition from SMP regulation to competition law (de-regulation) is relatively straightforward.

Arguably, SMP regulation is generally successful in the telecommunications sector in promoting competition and thereby enabling regulatory withdrawal. In fact, in terms of deregulation the telecommunications sectors are the leading ones ahead of all the recently reformed utilities in the EU.<sup>636</sup> In 2003 the Commission Recommendation 2003/311 on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation (in accordance with the Framework Directive) assigned 18 product or service markets, as potentially warranted for ex-ante regulation. The deregulation process however seem to be successful: in 2007, Commission Recommendation 2007/879 restricted the list to 7 markets. At the same time techno-economic factors are likely to have played an important role in the facilitation of competition, so the extent to which this can be attributed to SMP regulation is questionable.

## **2.2 The cons of SMP regulation**

The following section describes the most frequently criticised features of SMP regulation:

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<sup>636</sup> Johann J. Kranz, Arnold Picot, 'Toward an End-to-End Smart Grid: Overcoming Bottlenecks to Facilitate Competition and Innovation in Smart Grids' 2011 National Regulatory Research Institute available at: [http://www.nrri.org/pubs/telecommunications/NRRI\\_End\\_to\\_End\\_Smart\\_Grid\\_june11-12.pdf](http://www.nrri.org/pubs/telecommunications/NRRI_End_to_End_Smart_Grid_june11-12.pdf) accessed: 01/04/2013, 1

### **Costly – time-consuming – complicated**

The process leading to setting the obligation is time consuming and complicated.<sup>637</sup> Completing the first round of assessments took considerable time for the national regulators after the 2003 package came into effect.<sup>638</sup>

The regulators have to carry out extensive data collection in order to be able to assess the competitiveness of the market concerned, this is followed by the analysis of the data, drafting of findings, choosing appropriate remedies, submitting the draft to national and EU consultation. All these, before the decision can come into effect, then the cycle starts again.<sup>639</sup> As an illustration, Ofcom's final ruling on the SMP conditions relating to leased lines ended up to 652 pages.<sup>640</sup>

Besides the time necessary to carry out the relatively complex assessment, appeals can cause additional delays as they often have a suspensory effect.<sup>641</sup> By the strategic use of appeals the SMP operators can significantly reduce the

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<sup>637</sup> Brisby (2006) 117, Watson (2007) 133

<sup>638</sup> Berbaerts (2006) 10

<sup>639</sup> Inge Berbaerts 'Time to deregulate — Commission consultation on a new EU framework for electronic communications' (2006) 3 Competition Policy Newsletter available at: [http://ec.europa.eu/competition/publications/cpn/cpn2006\\_3.pdf](http://ec.europa.eu/competition/publications/cpn/cpn2006_3.pdf) accessed: 14/12/2013, 11

<sup>640</sup> "Review of the Retail Leased Lines, Symmetric Broadband Origination and Wholesale Trunk Segments Markets—Final Statement and Notification--Identification and Analysis of Markets, Determination of Market Power and Setting of SMP Conditions, 24 June 2004" (the "Leased Lines Market Review") available at: [stakeholders.ofcom.org.uk/binaries/consultations/llmr/statement/state\\_note.pdf](http://stakeholders.ofcom.org.uk/binaries/consultations/llmr/statement/state_note.pdf) accessed 14/12/2013

<sup>641</sup> Watson (2007) 133

effectiveness of the regulation. In some cases several years may pass until a decision can come into effect.<sup>642</sup>

Reducing the complexity of the market reviews was already a priority before the 2006 regulatory reforms. The regulatory burden seemed to be disproportionately heavy for especially newly established regulators, and new entrants.<sup>643</sup>

### **Mixture of concepts that do not fit together**

SMP regulation has been criticised in the past for being not aligned with competition law. The concept of SMP regulation was first introduced as part of the 1997 EU telecommunication regulatory package by Directive 97/51/EC of the European Parliament and of the Council of 6 October 1997 amending Council Directives 90/387/EEC and 92/44/EEC for the purpose of adaptation to a competitive environment in telecommunications. Article 2 (3) of the Directive stated that:

“an organization shall be presumed to have significant market power when its share of the relevant leased-lines market in a Member State is 25 % or more”

At this stage (1997-) the 25% threshold seemed to be a useful concept, in order to make procedures more straightforward. At the same time the regulation was not totally inflexible, there was a possibility to appoint firms below the 25% market share or exclude firms even though they had 25%+ market share.

In order to do so the National Regulatory Authority was required to take into account:

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<sup>642</sup> Berbaerts (2006) 10

<sup>643</sup> Brisby (2006) 117, Watson (2007) 133

- the organization's ability to influence the leased-lines market conditions,
- its turnover relative to the size of the market,
- its access to financial resources and its experience in providing products and services in the market.

At this stage the fixed threshold was not problematic, as at the beginning of the reforms, in most cases it was quite obvious anyway which firm (the incumbent) had SMP. Putting the standard of proof higher (prescribing a full market analysis) would have caused unnecessary delays and costs.<sup>644</sup>

At the same time, setting the threshold at 25% (although it was somewhat flexible) invoked much criticism, mainly as the logic behind SMP is quite similar to the dominance concept of EU competition law, however the latter sets the threshold around 40% (in general, but other factors such as contestability and demand-side elasticity are just as important). This, therefore, created a contradiction within the laws applicable to the telecommunications sector. Germany even refused to apply the 25% threshold on this basis.<sup>645</sup>

The Commission argued that the whole point of regulating the sectors is that competition law principles would be insufficient therefore a different and stricter threshold makes sense. Besides, as a practical advantage, this way the burden of proof on the national regulatory authorities is lower.<sup>646</sup> Some argued that the 25% threshold should be raised as the market matures.<sup>647</sup>

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<sup>644</sup> Nagy Csongor István, 'A jelentős piaci erő jogintézménye a villamosenergia-piac szabályozásában – jogalkotói önellentmondás' in *Verseny és Szabályozás 2008*, available at: [http://econ.core.hu/file/download/vesz08/07\\_piaciero.pdf](http://econ.core.hu/file/download/vesz08/07_piaciero.pdf) accessed: 02/03/2013, 150

<sup>645</sup> Ian Walden, 'European Union Communications Law' in Ian Walden ed. *Telecommunications Law and Regulation* (3rd edn. OUP 2009) 188

<sup>646</sup> Walden (2009) 189

<sup>647</sup> Geradin, 'Institutional aspects...' (2000) 13-14

One of the biggest debates during the drafting of the 2002 regulatory package was about how much have the markets matured: how strict regulation is needed, and in what extent can competition law take over the previous regulation. After substantial discussion, having considered different options,<sup>648</sup> the system was changed. The Commission's aim of step by step deregulating the sectors and leaving them solely governed by competition law necessitates the two laws to be in line with each other, so the process of transition can go smoother. Art 14 (2) of the Framework Directive now states that:

“[a]n undertaking shall be deemed to have significant market power if, either individually or jointly with others, it enjoys a position equivalent to dominance, that is to say a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers.”

The Directive also sets out that national regulatory authorities should “take into the utmost account the guidelines on market analysis and the assessment of significant market power”.<sup>649</sup>

Considering the dynamics of the deregulation process, the EU started the reform then introduced SMP regulation as an intermediate solution until the markets become competitive enough to allow deregulation which means that only competition law applies. The “second phase” of the EU reform process was about putting some constraint on the incumbents, so they cannot use their remaining market power to carry out exclusionary practices.<sup>650</sup>

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<sup>648</sup> Lloyd, Mellor (2003) 110-111

<sup>649</sup> Framework Directive Art 14 (2)

<sup>650</sup> Hultkrantz (2002) 140

According to the 2003 rules SMP regulation has been aligned with competition law,<sup>651</sup> however the criticism of inconsistency seem to remain on a different basis. It has been suggested that “The Framework consists of an unstable amalgam of competition law concepts, primarily dominance, with *ex ante* regulation and remedies to which such concepts are not particularly suited”.<sup>652</sup> This is because there are certain political expectations towards outcomes of the telecommunication regulation while competition law concepts disregard such issues.<sup>653</sup> Also Veljanovski argues that the Commission looks at the competition law or sector specific regulation issue as if it was only about the *ex-ante* and *ex-post* differences, hence they simply complement each other, while in reality this leads to double standards rather than a dual system.<sup>654</sup> Or according to Larouche “competition law concepts (...) are stretched to their limits and potentially even over-extended, in order to deal with situations where regulatory intervention is certainly defensible”.<sup>655</sup> At the same time de Streel argues that we have to differentiate between competition law principles and competition law intervention, as the former is essentially a “rigorous economic way of looking at the market and decrypting the forces at play” they use should not be restricted to competition law interventions; market regulation should equally be based on it.<sup>656</sup>

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<sup>651</sup> De Streel (2003) 536

<sup>652</sup> Watson (2007) 133

<sup>653</sup> Larouche (2002) 129, 142

<sup>654</sup> Cento G. Veljanovski, ‘Market definitions in telecommunications - the confusing proliferation of competitive standards’ 1999, 5(2) Computer and Telecommunications Law Review, 30-31

<sup>655</sup> Larouche (2002) 129, 139-140

<sup>656</sup> Alexandre De Streel, ‘The new concept of "significant market power" in electronic communications: the hybridisation of the sectoral regulation by competition law’ 2003, 24(10) European Competition Law Review, 542

## **SSNIP test is unreliable on non-competitive markets**

SMP regulation uses the hypothetical monopolist test to define the market boundaries, just like the merger control regulation, but in SMP this is applied in a forward looking way.

While the SMP Guidelines state that the hypothetical monopolist test is only “[o]ne possible way of assessing the existence of any demand and supply-side substitution” (para 40) and it also mentions looking at case law as a potential alternative (para 65), the Commission recommendation justifying ex ante regulation<sup>657</sup> solely uses the hypothetical monopolist concept without referring the case law.<sup>658</sup>

At the same time, it is well-know that the use of hypothetical monopolist test is problematic on non-competitive markets (see Cellophane-fallacy). This is because the method assumes that the initial price is competitive, which is not likely to be the case in the markets concerned.<sup>659</sup>

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<sup>657</sup> Commission Recommendation On Relevant Product and Service Markets within the electronic Communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communication networks and services

<sup>658</sup> Ian Dobbs Paul Richards, Innovation and the new regulatory framework for electronic communications in the EU’ 2004, 25(11) European Competition Law Review, 718

<sup>659</sup> Rohan Kariyawasam, ‘Defining dominance for bits & bytes: a new "layering theory" for interpreting significant market power?’ 2005, 26(10) European Competition Law Review, 589

## De-regulation is not incentivised

It has been discussed that whether SMP regulation (adequately) facilitates de-regulation is questionable.

Under SMP regulation there is no pre-set time table, which could at least give a de-regulation target for the authority.<sup>660</sup> There is also no built-in incentive in SMP regulation for the regulator to withdraw regulation, or abstain from regulation.<sup>661</sup> This can be an issue, considering that the regulator has an incentive to over-regulate thereby increasing its own importance. On the contrary, by achieving complete de-regulation the authority would essentially make itself unnecessary.

One of the conditions of applying ex-ante regulation under the SMP regime is that competition law would be insufficient, however this is rather unexplained requirement: it has not been defined when should competition law be considered sufficient.<sup>662</sup>

While there is no target within the SMP system for de-regulation, the Commission seem to be able to address the issue through the Recommendations on the markets relevant for ex-ante regulation.<sup>663</sup>

Still, Blankart et. al. argue that “a clear-cut economic analysis of the remaining need for sector-specific regulation is still missing”, suggesting that regulatory focus

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<sup>660</sup> CF Larouche (2002) 129, 141

<sup>661</sup> Watson (2007) 133

<sup>662</sup> Christian Hocepiéd and Alexandre de Streel, ‘The ambiguities of the European electronic communications regulation’ Published in E.J. Dommering and N.A.N.M. van Eijk (eds), *The Round Table Expert Group on Telecommunications Law*, University of Amsterdam, 2005, p 28

<sup>663</sup> CF Berbaerts (2006) 7, 10

should be adjusted to the firms' network-specific market power and asymmetric regulation should be abandoned.<sup>664</sup>

### **SMP applies to new-build assets**

In terms of the telecommunications sector due to its innovative nature the issue of emerging markets has to be considered as well. These are special scenarios and they have to be treated accordingly. While new markets may grow out of highly competitive ones, an emerging market is likely to be dominated by one firm, who invested in developing a new product or service.<sup>665</sup> On the basis of dominance it would potentially qualify for SMP regulation. At the same time an early regulation of these new markets may foreclose them and also eliminate the incentives for investing in R&D, while one of the duties of the regulators is "encouraging efficient investment in infrastructure and promoting innovation"<sup>666</sup>. However, the regulator has to issue at least one remedy when SMP is detected. As a result there is a regulatory contradiction between promoting innovation and compulsory remedying when there is an SMP operator.<sup>667</sup> Noticing the issue, recital 27 of the Framework Directive establishes that "guidelines will (...) address the issue of newly emerging markets, where de facto the market leader is likely to have a substantial market share but should not be subjected to inappropriate obligations". On this basis the SMP guidelines (para 32.) states that "NRAs should ensure that they can fully justify any form of early, ex-ante intervention in an emerging market, in particular since

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<sup>664</sup> Blankart et. al. (2007) 414

<sup>665</sup> Miguel Rato, Nicolas Petit, 'Abuse of Dominance in Technology-Enabled Markets: Established

Standards Reconsidered?' (2013) 9 (1)European Competition Journal, 1, 9

<sup>666</sup> Framework Directive Art. 8.2. (c)

<sup>667</sup> Dobbs, Richards (2004) 718

they retain the ability to intervene at a later stage, in the context of the periodic re-assessment of the relevant markets. “

Under SMP regulation, in an emerging market the regulator does not apply remedies even if (which is usually the case) there is an SMP operator. However, SMP regulation applies fully to new-build assets. It has been argued that this cause regulatory inconsistency,<sup>668</sup> besides all the negative effects that justifies non-application of regulation for emerging markets.

### **Lack of harmonisation**

The 2003 review brought much more freedom; the new regulation can be used more flexibly by the national regulators. The downside of this is that it can lead to inconsistent regulation (within the EU). According to Hocepied and de Streel “the 2003 framework does not provide a clear regulatory vision”. They note that in the 2003 package there are overarching principles and broad objectives while the regulators have enhanced discretion. There are soft law materials providing more detail, but these are often very vague. The institutional setup does not compensate the discretion either.<sup>669</sup>

While the regulatory approach is harmonised and is based on in-depth economic analysis, also the Commission issues recommendation on markets susceptible to ex-ante regulation, the regulatory outcomes diverge between Member States. Only a fragment of this is justified on the basis of different circumstances in different

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<sup>668</sup> Watson (2007) 133

<sup>669</sup> Hocepied, de Streel (2005) 4

member states.<sup>670</sup> There is particularly insufficient harmonisation in terms of cost counting methods.<sup>671</sup>

Lack of harmonised enforcement reduces legal certainty. Deficiency in legal certainty means increased risks for the operators which sets back investments.<sup>672</sup>

## **Asymmetric**

The pros of asymmetric regulation have been discussed already. The comparison of the UK telecommunications reform to Australia offers an interesting insight to the effectiveness of asymmetric regulation, showing a rather negative picture.

In the UK BT was not allowed to enter into several markets (for example cable TV), based on the assumption that BT's already existing strong positions would allow it to leverage its market power to these other markets thereby paralysing competition. While it is clear to see the logic behind this theory, in practice the policy resulted in a rather weak cable sector. In contrast, in Australia, Telstra – the (partially) state-owned public telecommunication operator – was not restricted in such ways still, concurrent networks were laid down in record time, bringing an unexpected level of network-based competition. This example therefore suggests that – even in the presence of a dominant incumbent, which in theory necessitates asymmetry – the “pro-competitive” asymmetric regulation may actually bring less competition than a symmetric one.<sup>673</sup> This does not mean that the regulation of the incumbent is unnecessary or even bad. Experience with no regulation both in

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<sup>670</sup> Berbaerts (2006) 10

<sup>671</sup> Watson (2007) 133

<sup>672</sup> *ibid* 138

<sup>673</sup> Veljanovski (1999) 32-33

the German electricity sector and the telecommunications sector of New Zealand suggest that the lack of a regulatory framework is highly ineffective in newly reformed sectors.<sup>674</sup>

This is in line with Knieps's suggestion: "[a]symmetry of market power due to monopolistic bottleneck facilities, however, does not in itself require asymmetric regulation. Instead, the symmetry principle requires that all firms have access to local telecommunications networks on terms identical to those of the incumbent (non-discriminatory access)."<sup>675</sup>

### **3. How could SMP regulation be utilised in electricity?**

The following section assesses how would SMP regulation (as currently used in the EU for the telecommunications sector) apply to the electricity sector. The Hungarian electricity sector is used as an illustration, since Hungary is the only country in the EU that applies SMP regulation in the electricity sector. In order to show a more universal potential for the application of SMP regulation the Hungarian practice is contrasted to the situation in the UK. It has to be noted that SMP regulation would essentially mean re-regulation in terms of the competitive levels, as currently these are solely governed by competition law. This might seem like a step backwards for this reason. The need for re-regulation has been discussed earlier. A general question that has to be addressed here is whether SMP regulation is suitable for re-regulation.

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<sup>674</sup> Doherty (2001) 229

<sup>675</sup> Gunter Knieps, 'Regulatory reform of European telecommunications: past experience and forward-looking perspectives' (2001) 2 (3/4) European Business Organization Law Review, 653

While SMP regulation is often regarded as de-regulatory,<sup>676</sup> it is more precise to say that it is flexible: the regulator can decide whether regulation is needed or not. This makes de-regulation straightforward, as there is no need for political (legislative) decision. At the same time re-regulation is just as simple. As a matter of fact the 2003 reform of the EU *telecommunication* regulation, which formed SMP regulation to its current state, was neither de-regulatory in effect nor meant to be de-regulatory.<sup>677</sup> While as defined by the 1998 regulation, SMP regulation was rather connected to the ex-monopolist (aiming at controlling its retained market power) after the 2003 reform SMP regulation was only connected to the inefficiency of competition law. This is a major shift in the regulatory paradigm that is likely to allow for the extension of the regulation.<sup>678</sup> Therefore, on this basis the potential applicability to the electricity sector cannot be ruled out.

The following analysis looks at how the three-step regulatory process would be carried out in the electricity sector, based on the Hungarian experience and comparing it to the UK. The part builds on the previously assessed pros and cons of SMP regulation, in order to show whether (or in what respect) the features of SMP regulation fit relatively better to the telecommunications sector than to the electricity sector.

### **3.1 Market definition**

As a start the regulatory authority should define the markets. One of the criticised points of SMP regulation, that is especially relevant here, was that it relies on the SSNIP test, which is unreliable in cases where the reference prices are above the

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<sup>676</sup> CF De Streel (2003) 538

<sup>677</sup> Brisby (2006) 119-120

<sup>678</sup> De Streel (2003) 538

competitive level. Considering what has been said at the introduction about price tendencies and governmental concerns, there is a possibility that prices are above the competitive level in the electricity sector.

SSNIP test leads to a too broad market definition when it is based on a supra-competitive price. This may drive the whole regulatory process off track, as a when the market is defined too broadly, SMP becomes invisible. A firm having SMP might appear to be non-SMP because the too broad market definition makes it look like it has to face competition from market players, who are in fact not competing in that market.

This is, however, more of a problem when the SSNIP test is applied to a complex sector, with many markets of products and services that are more or less substitutes of each other because in cases like that (due to the supra-competitive base-price) the SSNIP test is going to result in falsely combining a number of markets. In telecommunications this is surely a threat<sup>679</sup> as there are many markets, closely related to each other and their features change quickly.<sup>680</sup>

However, the electricity sector is much simpler than the telecommunications sector. There are no closely related products and services, development is much slower so the market boundaries are much more stable.

Having a quick look at the Hungarian experience might be illustrative. Act LXXXVI. of 2007 (VET) introduced SMP regulation to the electricity sector. The definition used by this Act is the very same as the one used in telecommunication, that originates from EU law; a firm has significant market power if it “has a dominant position on a relevant market alone or together with another market participant,

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<sup>679</sup> Cf Larouche (2000) 415

<sup>680</sup> Veljanovski (1999) 31

i.e. a position of economic strength affording it the power to act to an appreciable extent independently of competitors and users”.<sup>681</sup>

According to VET the authority shall analyse three markets:

1. wholesale electricity markets,
2. retail electricity markets,
3. markets for capacity and energy required to ensure ancillary services.<sup>682</sup>

This is three markets in total, with clearly different functions. In comparison, in the telecommunications sector 18 markets qualifying for ex-ante regulation has been identified. This has been cut back to 7 in 2007, which suggest the simplification of (at least) the markets susceptible for ex-ante regulation.

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<sup>681</sup> VET Article 107 (2)

<sup>682</sup> VET Article 107 (1)

First Recommendation (2003)		Second Recommendation (2007)	
Retain PSTN	1	1	Retail fixed access
	2		
Retail fixed voice telephone	3		
	4		
	5		
	6		
Retail leased lines (minimum set)	7		
Fixed voice call origination	8	2	Fixed voice call origination
Fixed voice call termination	9	3	Fixed voice call termination
Fixed voice call transit	10		
Local loop unbundling	11	4	Local loop unbundling
Wholesale broadband access (bitstream)	12	5	Wholesale broadband access
Leased lines terminating segments	13	6	Leased lines terminating segments
Leased lines transit segments	14		
Mobile access and call origination	15		
Mobile voice call termination	16	7	Mobile voice call termination
Mobile roaming	17		
Broadcasting transmission	18		

Figure 54 Recommendation on regulated telecom markets (2003/2007)

Source: Future electronic communications markets subject to ex-ante regulation

However, the most up to date report on the issue<sup>683</sup> identifies the markets of the current communications sector as the following:

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<sup>683</sup> Future electronic communications markets subject to ex-ante regulation – Final Report, available at: <http://ec.europa.eu/digital-agenda/en/news/future-electronic-communications-markets-subject-ex-ante-regulation> accessed: 15/12/2013

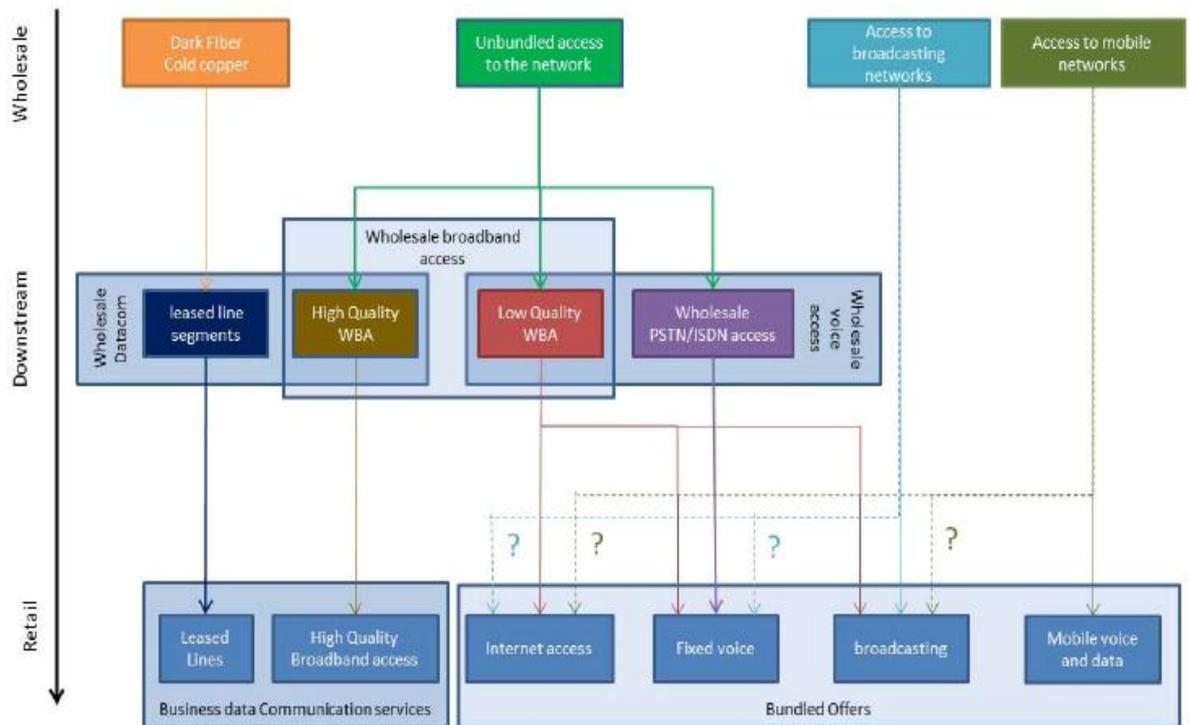


Figure 55 Structure of the telecom sector

The continuing higher complexity of the communications sector suggest that market definition – and the connected problem with the use of the SSNIP test – is much more of an issue for the communications sector than for the electricity sector. Since the structure of the electricity sector is much less complex than telecommunications (markets in the UK can probably be defined similarly as in Hungary) extra competitive prices should have less distortive effect.

### 3.2 SMP assessment

In the second step the NRA have to analyse whether one or more undertaking(s) active in that market possesses significant market power. Originally, this was fairly straightforward: the ex-monopolist has been identified as an SMP operator. The pre-2003 SMP system basically reflected this issue, however even back then, the Commission was off the view that joint dominance can be found to exist in the

telecommunications sector.<sup>684</sup> Later on, several telecommunications regulators notified joint dominance in the sector.<sup>685</sup> Still, BEREC is of the view that the future revised SMP Guidelines should put more emphasis on joint dominance.<sup>686</sup>

The Hungarian experience with SMP regulation in electricity is rather similar to this early stage of the EU telecommunications regulation. According to the VET in 2008 MVM (the ex-monopolist incumbent) was appointed as a firm having SMP in the wholesale electricity markets. MVM was ordered to auction its capacity which is in excess of 40% of the total market, and also price control was set.<sup>687</sup> In 2011 the SMP procedure was carried out again: while the auction order was kept as before, the price control no longer applies.<sup>688</sup>

In 2009 concerning the markets for capacity and energy required to ensure ancillary services also branches of the MVM was appointed as firm having SMP and price-related obligations were made.<sup>689</sup>

The regulator established that the country's territory can be divided into more than one retail electricity markets. All together four firms have been appointed as

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<sup>684</sup> Andrew Tarrant, 'Significant market power in the regulation of telecommunications markets' 2000, 21(7) *European Competition Law Review*, 323

<sup>685</sup> Ofcom filed a notification to the Commission arguing that Crown Castle and ntl holds joint dominance, although this notification was later withdrawn. The Irish Commission for Communications Regulation established that Vodafone and O2 held joint dominance on the wholesale market for access and call origination on public mobile telephone networks.

<sup>686</sup> BEREC, 'Commission Recommendation on relevant product and service markets susceptible to ex ante regulation - BEREC's opinion' (2014) available at: [file:///C:/Users/47/Documents/Second%20draft/4438-berec-opinion-on-the-commission-recommen\\_0.pdf](file:///C:/Users/47/Documents/Second%20draft/4438-berec-opinion-on-the-commission-recommen_0.pdf) accessed: 07/10/2014, 11

<sup>687</sup> Hungarian Energy Office, Decision 739/2008

<sup>688</sup> Hungarian Energy Office, Decision 747/2011

<sup>689</sup> Hungarian Energy Office, Decision 727/2008

having SMP in providing universal service and ordered to undertake transparency related obligations.<sup>690</sup>

Although there are quite a few market players in both competitive markets – it is beyond question that the Hungarian market is dominated by the MVM (Hungarian Electric Works).<sup>691</sup> Although the MVM owns plants producing about 30-40% of the total Hungarian generating capacity, it controlled much more than 70%<sup>692</sup> of the total generating capacity via long term contracts<sup>693</sup> with other generators.<sup>694</sup> It is fairly clear, that SMP regulation in the Hungarian electricity sector is essentially used to control the ex-monopoly's retained market power.

However, assessing SMP in the UK's electricity sector is much more complicated in this respect. In England and Wales after the splitting up of the CEGB the market started to operate as a duopoly<sup>695</sup> because two participants generated the majority

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<sup>690</sup> Hungarian Energy Office, Decision 114/2009

<sup>691</sup> R. Pesic, D. Ürge-Vorsatz, 'Restructuring of the Hungarian Electricity Industry ' (2001) 13(1) Journal of Post-Communist Economies 8, Energia Kontroll Projekt, 'Kormányzati kudarcok, járadékvadászat és korrupciós kockázatok a magyar villamosenergia-szektorban' available at: [http://energiakontrollprojekt.hu/info/wp-content/uploads/2010/05/EKP\\_tanulmany\\_Jaradekvadaszat-es-korrupcio.pdf](http://energiakontrollprojekt.hu/info/wp-content/uploads/2010/05/EKP_tanulmany_Jaradekvadaszat-es-korrupcio.pdf) 19

<sup>692</sup> CF Hungarian Energy Office, 'Annual report to the European Commission' (2009) 16

<sup>693</sup> Koppányi Szabolcs et al 'Az ex ante piacsabályozás lehetőségei a magyar energetikai szabályozásban' Review ordered by the Hungarian Energy Office, Budapest, 2007, 61-62

<sup>694</sup> CF Energia Kontroll Projekt, 'Kormányzati kudarcok..' (2010) 20, Horváth J. Ferenc, 'Piacnyitás a villamosenergia-iparban' available at: [http://www.beszeltgetnikell.hu/index.cgi?r=&v=&l=&mf=&p=-letoltes\\_horvathjf\\_vandorgyules.doc](http://www.beszeltgetnikell.hu/index.cgi?r=&v=&l=&mf=&p=-letoltes_horvathjf_vandorgyules.doc) accessed 20/08/2010 2-3

<sup>695</sup> CF: ER Larsen, DW Bunn, 'Deregulation in electricity: understanding strategic and regulatory risk' (1999) 50 Journal of the Operational Research Society 340, Valdivielso del Real, 'Takeovers and the Evolution of the Electricity Sector in Britain and Spain: the Insights and Limits of the Varieties of Capitalism Perspective' CSGR Working Paper 259/09 38

of the energy.<sup>696</sup> The generation level was initially very concentrated;<sup>697</sup> it has been suggested that only three firms are simply not enough to bring effective competition.<sup>698</sup> However, later on, generation became more competitive<sup>699</sup> partly because of new entry,<sup>700</sup> which was enabled by the cheap construction costs of CCGT plants and by power plant sales required by the government,<sup>701</sup> partly as they became competitors with other UK generators, such as Scottish Power and Hydro-Electric.<sup>702</sup> After the privatisation the Herfindahl-Hirschmann index of the generation market declined constantly.

Currently none of the six big firms that are active on the competitive markets (Centrica, EON/PowerGen, RWE/National Power, EDF Energy, Scottish Power and

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<sup>696</sup> “British Energy’s nuclear power stations are not a pricesetting power source in the wholesale market” - Business and Enterprise Committee, ‘Energy prices, fuel poverty and Ofgem’ HC Eleventh Report of Session 2007–08 Vol I [48],

<sup>697</sup> Larsen, Bunn (1999) 339

<sup>698</sup> Vassiliki Koumpli, ‘Competition Rules or Sector-Specific Regulation for the Liberalisation of the European Electricity Markets? With Reference to the English, Greek and German Third-Party Access Regimes’ (2007) 25 *Journal of Energy & Natural Resources Law* 178, Cf Richard Green, ‘The Electricity Contract Market in England and Wales’ (1999) 47 *The Journal of Industrial Economics*, 107

<sup>699</sup> David Hawdon, Lester C. Hunt, Paul Levine, and Neil Rickmany, ‘Optimal sliding scale regulation: an application to regional electricity distribution in England and Wales’ (2007) *Oxford Economic Papers* 59, 461 Cf Rachel A. Mitchell, ‘The Electricity Directive of the European Union: What Can the Member States Learn from the Experiences of Privatised England and Wales’ (1998-1999) 14 *Am. U. Int’l L.* 790

<sup>700</sup> Cf: Chi-Keung Wooa,b, Debra Lloyd, Asher Tishler, ‘Electricity market reform failures: UK, Norway, Alberta and California’ (2003) 31 *Energy Policy*, 1109

<sup>701</sup> Stephen Littlechild, ‘Smaller Suppliers in the UK Domestic Electricity Market: Experience, Concerns and Policy Recommendations’ (University of Cambridge Electricity Policy Research Group working paper 2008) available at: <http://www.eprg.group.cam.ac.uk/wp-content/uploads/2008/11/littlechildsuppliers.pdf> accessed 26/08/2010 6

<sup>702</sup> Mitchell (1998-1999) 790,

Scottish and Southern Electricity) is even close to have enough market shares to dominate the market alone.<sup>703</sup> The concentration of the generation market is so low that even the „Big Six“ together only generates about half of the total output.<sup>704</sup> The British market is one of the less concentrated one in the EU. However, the ease of monitoring other firms' behaviour and ability of punishing unilateral actions, together with the lack of competitive pressure present by potential entry means that even though concentration is low the UK electricity sector's features can facilitate oligopolistic behaviour. In fact there is both theoretical and empirical evidence for exercising joint dominance.<sup>705</sup> As an example Harker and Waddams establishes that the UK's electricity sector “display[s] all the characteristics normally associated with collective dominance, in particular the repeated interaction of six firms who have the position of being both incumbents and entrants”.<sup>706</sup>

The vertically integrated “Big Six” in most of the times has enough generating capacity to supply their own domestic and SME<sup>707</sup> consumers.<sup>708</sup> As a result the

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<sup>703</sup> Koumpli (2007) 178

<sup>704</sup> CF: Business and Enterprise Committee, ‘Energy prices, fuel poverty and Ofgem’ HC Eleventh Report of Session 2007–08 Vol I [43], [48]

<sup>705</sup> Catherine Waddams, ‘The Effect of Liberalizing UK Retail Energy Markets on Consumers’ 2005 (21) Oxford Review of Economic Policy, 135, CF Anderson (2009) 73, Hannes Weigt, Anne Neumann and Christian von Hirschhausen, ‘Divestitures in the Electricity Sector: Conceptual Issues and Lessons from International Experiences’ 2009 (22) The Electricity Journal, 61

<sup>706</sup> Catherine Waddams, Michael Harker, ‘Introducing competition and deregulating the British domestic energy markets: a legal and economic discussion’ 2007 Journal of Business Law, 269

<sup>707</sup> Acronym of Small and Medium Enterprises

<sup>708</sup> Business and Enterprise Committee, ‘Energy prices, fuel poverty and Ofgem’ HC Eleventh Report of Session 2007–08 Vol I [53]

wholesale market has a balancing function only,<sup>709</sup> and trading mainly concerns short term deals. Liquidity and transparency on the wholesale market is low.<sup>710</sup>

Arguably, the effect of this lack of liquidity is that small suppliers outside the “Big Six” cannot buy the electricity they need to provide their own customers on the retail market.<sup>711</sup> They could buy from the individual generators, but for these individual generators it is problematic to sell only such small quantities that these suppliers are willing to buy.<sup>712</sup> When both connected levels are ‘locked’ entry is rather just feasible by entering both levels, which is inevitably less feasible.

Accordingly, in terms of the UK’s electricity market SMP may only exist in its joint form. Furthermore leveraging of market power can be an issue, since the same players are present on both the upstream and downstream competitive levels. As part of the EU telecommunications regulation, SMP regulation clearly applies to joint dominance<sup>713</sup> cases since Article 14 of the framework Directive – in line with the Court of Justice case-law – defines SMP as the following:

“an undertaking shall be deemed to have significant market power if, either individually or jointly with others, it enjoys a position equivalent to dominance, that is to say a position of economic strength affording it the power to behave to an appreciable extent independently of competitors customers and ultimately consumers”.

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<sup>709</sup> *Ibid*

<sup>710</sup> Total traded electricity is currently equivalent to 2-3 times physical delivery. Ofgem notes that this is low compared to other commodities, for example gas trades at around 11 times physical delivery. It is also in stark contrast to German and Dutch electricity markets, where liquidity in recent years has been increasing.

<sup>711</sup> Littlechild (2008) 47, Business and Enterprise Committee, ‘Energy prices, fuel poverty and Ofgem’ HC Eleventh Report of Session 2007–08 Vol I[58]

<sup>712</sup> *Ibid*

<sup>713</sup> CF SMP Guidelines Art 86

As the definition of SMP is harmonised with the dominance concept of article 102 of TFEU, the regulators have to take into account the Commissions practice and the EU Courts' case law on the relevant issue,<sup>714</sup> which includes joint dominance.

According to the SMP Guidelines, the Commission's position is that joint SMP may exist when two or more undertakings have "substantially the same position vis-à-vis their customers and competitors as a single company has if it is in a dominant position, provided that no effective competition existed between them"<sup>715</sup>, adding that this may be due to links between those undertakings, although finding such links is not a prerequisite to establish that the undertakings are in joint dominance.<sup>716</sup>

Establishing joint dominance is a very complex task however many features have been identified that enhances the possibility of tacit collusion, which gives a guidance for the assessment. These features include transparency, possibility of retaliation, no countervailing reaction of the peripheral competitors, inter alia concentrated market, mature market, similar cost structure and market shares.<sup>717</sup>

When these features are present it is likely that the undertakings individually find that the best strategy for maximising profits is to raise prices instead of competing, as they can reasonably assume that other undertakings will also rather raise prices than compete.<sup>718</sup> Hence, joint dominance can be established under the current SMP regulation (as applied to the telecommunications sector) based on the above-mentioned anti-competitive features.

Whether SMP regulation can provide a good solution (and not just a possible solution) to the oligopoly problem is questionable. *De jure* – in the

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<sup>714</sup> SMP Guidelines Art 70.

<sup>715</sup> SMP Guidelines Art 87

<sup>716</sup> Tarrant (2000) 323

<sup>717</sup> De Streel (2003) 540

<sup>718</sup> Tarrant (2000) 324

telecommunications regulation – SMP regulation applies to joint dominance as well, so it can capture such problem. However, the asymmetric treatment (as described before as part of the “pros”) – the essence of SMP regulation – seems to offer the less benefit the more firms are identified as having SMP. This is because the benefit is ultimately materialised by the freedom of firms that do not possess SMP. The smaller the number of these firms is, the less benefit can be realised via SMP regulation. At the same time “ordinary” regulation can offer a simpler and cheaper solution. However, as it has been discussed earlier whether regulatory asymmetry is beneficial or not is highly questionable and SMP regulation offers other benefits. Besides, going back to ordinary regulation would, mean taking two steps back and essentially giving up the aim of achieving a competitive electricity sector. This would also pre-empt the reform, which in that case would be no more than privatisation. An intermediate solution – something between competition law and ordinary regulation – is needed.

### **3.3 Decision on remedies**

Having found SMP, in the third step the regulator has to choose the appropriate remedies. The selection of remedies under the EU telecommunications regulations consist of transparency, non-discrimination, accounting separation, obligations for access to and use of specific network facilities, and price control and cost accounting obligations. As Article 8 of the Access Directive provides that a regulator may impose remedies outside this list (with only procedural restrictions), under the telecommunications regime the number of possible remedies is conceptually unlimited. The possibilities are only restricted by national regulations putting restrictions on the powers of the regulators. The only substantial

requirement under EU law is proportionality.<sup>719</sup> SMP remedies are similar to the competition law ones, however, as SMP regulation applies ex-ante and it is relatively easy (within the restricted scope of the regulation) they offer a much more efficient solution for markets where there is a continuing need for intervention.<sup>720</sup> Also the aims of the two are different: competition law remedies aim at sanctioning a previous breach of law, while SMP remedies are aimed at the objectives set by the regulation.<sup>721</sup>

The Hungarian application of SMP regulation to the electricity sector is similar in this respect. The VET lists the possibly applicable remedies sorted by markets concerned. The authority may prescribe to a firm having SMP on all markets duties related to:

(a) transparency

(b) equal treatment,

(c) price limits or cost-oriented pricing (concerning the wholesale electricity markets and the retail electricity markets practices of charging too high prices to competitors of its affiliate, charging too low prices which can impede entry, showing undue preference to specific users and unreasonable bundling are especially stressed).<sup>722</sup>

SMP operators active on the wholesale electricity markets might furthermore be required to hold public auctions at specific intervals.<sup>723</sup> SMP operators of the retail

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<sup>719</sup> SMP Guidance Art. 21

<sup>720</sup> De Streel (2003) 542

<sup>721</sup> SMP Guidelines Para. 31

<sup>722</sup> VET Article 111 (3)

<sup>723</sup> VET Article 111 (1)

electricity markets can be obliged to draw up a reference offers.<sup>724</sup> If the SMP operator participating in either the wholesale electricity markets or the retail electricity markets, is part of a vertically integrated firm, the reorganisation of the internal structure can also be ordered (this can include even ordering full ownership unbundling of transmission and distribution businesses).<sup>725</sup>

In order to have structured assessment of the circle of possible options a systematic approach is needed. Remedies can be divided into structural and behavioural. Structural remedies tend to be more intense interventions however they are one-time solutions, which has many advantages. Behavioural remedies are less forceful but they come with a continuing need for supervision by the regulator. Structural remedies have been widely used in the UK's electricity sector already: the competitive levels are separated from the non-competitive ones. There is vertical integration between the competitive levels which may be a potential issue. However, while the importance of strict unbundling of the natural monopolies and the competitive firms is out of question whether integration between the competitive level is all-in-all beneficial or harmful is debateable. Some suggests that letting firms of the different competitive markets merging is rather beneficial.<sup>726</sup> Vertical integration has economic advantages that can be passed on to consumers.<sup>727</sup> Some suggest that without the integrated nature of these

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<sup>724</sup> VET Article 111 (2)

<sup>725</sup> VET Article 111 (4)

<sup>726</sup> Richard Meade, 'Electricity Investment and Security of Supply in Liberalized Electricity Systems' Available at: <http://ssrn.com/abstract=831585> accessed 25/08/2010 25, CF Ofgem, 'Mergers in the electricity distribution sector Policy statement' (2002) Executive summary 2

<sup>727</sup> CF Ofgem, 'Mergers in the electricity distribution sector Policy statement' (2002) Executive summary 5, 10-11, 19

companies, prices would be already higher.<sup>728</sup> Accordingly (any sort of) separation which could be applied successfully as part of SMP regulation to benefit consumers would not likely to qualify as a potential new remedy in the electricity sector.

Furthermore, as the bottleneck parts – the network – are already strongly separated in the electricity sector of the UK, access related remedies: non-discrimination and obligations for access to and use of specific network facilities are also not likely to be able to bring about any sort of change in how the electricity sector currently works.

Moving on to non-structural remedies, it can be established that transparency is normally used as an accessory obligation, to facilitate regulation. Equal treatment is used to prevent discrimination in the access terms. This is less important when the network is separated, as they are in the UK. The only solution that has not been applied or cannot be ruled out on the basis of no potential effect in the sector is price regulation of the competitive levels.

### **Price regulation**

Here this paper focuses on the main criticism of price regulation and especially price regulation in the electricity sector. Since price regulation in the electricity sector is a very controversial issue the debate over it is considered in more detail.

First of all price regulation is a very complicated task: all the factors that automatically shape the optimal price in a competitive market should be taken into

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<sup>728</sup> “The Chief Executive of Scottish and Southern Energy (SSE) told us: “At present [...] supply is loss-making. If it was not for the fact that all of the six are vertically integrated, prices to customers would already be higher than they are now”.” - Business and Enterprise Committee, ‘Energy prices, fuel poverty and Ofgem’ HC Eleventh Report of Session 2007–08 Vol I [53]

account to the appropriate extent, which is obviously impossible. Therefore, regulated prices are going to be either below or above the perfectly optimal price. Both too high and too low prices are problematic. A too high price reduces consumer surplus: consumers have to pay an excessive price for the product, furthermore some consumers fall out of the market as they will not buy the product for the excessive price, or not buy as much as they would otherwise buy. A too low price is harmful as they might not allow the firm to recover its costs to maintain operation, or deter investments when the company is not allowed to reap a fair profit.

In ordinary cases for regulation these arguments are weak, because they are based on the comparison of a regulated price to the perfectly competitive price. Such comparison essentially has no practical implications, as where the price is regulated due to the lack of competition the real alternative is only the excessive price that would be charged in the lack of competition (and price regulation).

However, in cases where there is scope for competition to emerge this is not the case. Paradoxically, where competition is possible, price which is too low is a much bigger issue than one which is too high. This is because an excessive price attracts entry. New entrants then induce competition which drives the price down. So without any intervention competition can be induced, a competitive price is formulated, while the costs of regulating are saved and the problems of the imperfectly regulated price do not constitute an issue. In a sense the argument is that in cases like this – while price regulation would bring more consumer surplus on the short run – in the long run the consumers are better off without price regulation.

Moving away from the UK, it has to be taken into account that the EU is fully against price control in electricity. The Commission argues that consumers would be better off if prices were not regulated because this would enable them to reap the benefits of a unified energy market assuming that there would be greater competition due to the unification of the national markets. Still, about half of the Member States' governments seem to be sceptical about those benefits and

maintain price regulations. From a political perspective there is a great difference between the Commission and the Governments: the governments are much closer to the consumers (voters) than the Commission, so the Commission is probably focusing rather on achieving a unified EU energy market (which is a stand-alone aim of the EU) while the Member States' governments rather just want to ensure that citizens get affordable electricity.

It is worth quoting the speech of Günther Oettinger (EU Commissioner for Energy) at the Second Conference on the completion of the EU internal energy market at Charlemagne (de Gasperi) on 8 April 2013<sup>729</sup>:

“Let me be very clear what it means to have regulated prices in places where markets could work:

- the service levels will remain low, as the regulated prices keep competitors at bay and there is little competitive pressure to serve consumers better. Our household surveys have indeed shown that consumers are most dissatisfied and frustrated in countries where prices are regulated below costs,
- if prices are regulated the new possibilities for consumers to play an active role in the electricity market and for establishing new business models for energy services and demand response by introducing smart meters remain unused,
- with regulated prices, investments will not take place as there is no incentive,

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<sup>729</sup> Available at: [http://ec.europa.eu/commission\\_2010-2014/oettinger/headlines/speeches/2013/04/doc/20130408\\_symposium\\_en.pdf](http://ec.europa.eu/commission_2010-2014/oettinger/headlines/speeches/2013/04/doc/20130408_symposium_en.pdf) accessed: 17/12/2013

what then happens is, the tax payer pays for rebates on the energy bill – sometimes the same taxpayer who defends lower energy prices. Or, even more risky, public deficits rise even further.”

Another EU argument against price regulation is based on creating a single market for electricity and thereby changing the game in the EU. The Commission seem to assume that regulated prices hold back the unification of the EU energy sector, which would enhance competition and therefore create naturally low (competitive) prices plus other kinds of benefits that are generally associated with competition. The Commission believes that as a single EU market for electricity would bring all the key EU players to compete against each other reducing the market concentration. Also according to one of the latest Parliament research paper assessing the costs of the lack of a single EU electricity market, “price regulations can be justified (...) in case of insufficient market players to stimulate competition”.<sup>730</sup> This seems to assume that the presence of a sufficient number of market players leads to competition. However, lack of competitors may not be an issue in terms of the UK electricity sector.

A potential problem in the electricity sector (at least in the UK) may be tacit collusion. It is true that higher number of competitors make tacit collusion less likely, however, the number of competitors is not the only feature influencing market behaviour and especially the electricity sector seem to have many other features that facilitate collusion.<sup>731</sup>

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<sup>730</sup> Cost of Non-Europe in the Single Market for Energy - ANNEX I - A cost estimation of existing gaps and barriers available at: [http://www.europarl.europa.eu/RegData/etudes/etudes/JOIN/2013/504466/IPOL-JOIN\\_ET%282013%29504466%28ANN01%29\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/etudes/JOIN/2013/504466/IPOL-JOIN_ET%282013%29504466%28ANN01%29_EN.pdf) accessed: 12/12/2013, p. 15.

<sup>731</sup> Waddams, Harker (2007) 269

Since SMP is flexible and relatively fast: the regulator can withdraw price regulation for the first sign of awakening competition, for example diminishing of features facilitating joint dominance.

It has to be noted that price regulation can facilitate competition when done correctly. The above-cited Parliament research paper assessing the costs of the lack of a single EU electricity market takes the point of the Working Group on Transparency in EU Retail Energy Markets that: “regulated prices, if set appropriately and competitively, can play a key role in encouraging competition. A regulated tariff should provide a benchmark for a 'fair' and transparent energy price, against which other, non-regulated price offers are pitched and decisions to switch are taken”.<sup>732</sup> In this case, setting a well-calibrated price cap could remove the potential for gaining supra-competitive profits by colluding, which is likely to lessen (or even eliminate) the incentive of colluding in general. At the same time a price cap would not eliminate the possibility of price competition. Driven by the aim of maximising profits, firms – who would have less incentive to collude – could instead try to earn more profits by competing for the customers with prices below the price cap. While it is true that competition is not only about prices (but also innovation, choice etc.)<sup>733</sup>, considering the main features of electricity as a product, price is likely to be the key.

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<sup>732</sup> Working Group Report on Transparency in EU Retail Energy Markets Report prepared for the 5th

Citizens' Energy Forum – November 2012 available at: accessed: 16/12/2013, p. 7, footnote7

<sup>733</sup> Stephen Littlechild, ‘The Nature of Competition and the Regulatory Process’ 2011 (1) Intereconomics 12

## 4. Possible alternative solutions

In the previous part we have described how SMP regulation could be used in the electricity sector, concluding that it is not too telecommunications specific. Here we take a step further by comparing it to other potential options.

It has to be noted, that only perfect competition is expected to deliver a fully desirable outcome, but perfect competition is rather a theory than an actually observable process. In terms of the EU electricity sectors in the short/mid-run achieving even a high level of competitiveness is an extremely optimistic aim. Therefore, for the close future a second-best option has to be chosen. This implies two things about the assessment:

- In terms of the analysis this means that the alternative options should be measured to each other (in terms of political feasibility, potential outcomes etc.) and not to a perfectly competitive scenario.
- The preferred option should have a potential to facilitate competition.

Conceptually, this chapter assesses four types of solutions that can be applied to a sector that is underachieving due to lack of competition:

- Competition law – enforced by the Competition Authority
- Direct Government intervention
- “Ordinary” regulation enforced by the sector regulator
- SMP regulation

SMP regulation has been analysed in detail already. Here the aim is to consider the other possible options and analyse whether they could provide a better solution.

#### 4.1 Competition law – Competition Authority

Market power can be controlled by competition law as well.<sup>734</sup> During the reform process, before the deregulation it is the sector regulators' job to maximise consumer surplus, after the deregulation the competition authority is responsible for the sector. The supervision of the competition authority is enough, when there is competition in the market, and intervention is only occasionally necessary. However, the competition authority does not have the sector specific knowledge (at least to the same degree) and capacity to deal with constantly emerging issues, which is essential in the lack of real competition. Furthermore, competition law applies ex-post and when the frequency of anti-competitive conducts is high, ex-post interventions might not be able to remedy the harm suffered by the competitive process itself. This is the case when competitors are forced out of the market by the time the case has been decided, they cannot run their business and thereby compete due to reoccurring anti-competitive conducts, or they find entry too risky for these reason and stay out of the market. Ex-ante regulation might work better in such cases.<sup>735</sup> SMP regulation was specifically designed to control market power when competition law is insufficient for the purpose.<sup>736</sup> Deregulation is only justified when competition can achieve lower deadweight welfare loss than regulation.<sup>737</sup>

The sole use of competition law is the baseline scenario in terms of the competitive levels of the electricity sector in the UK and Germany. In Germany straight after

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<sup>734</sup> Geradin (2001) 116

<sup>735</sup> See conclusions on respective US reforms - William G. Shepherd, 'Dim prospects: effective competition in telecommunications, railroads and electricity' 1997 (42) The Antitrust Bulletin, 173-174

<sup>736</sup> De Streel (2003) 535

<sup>737</sup> Waddams (2005) 133

the de-regulation the Competition Authority was solely responsible for the whole electricity sector (networks included). The results of the reform were much worse than the UK's.<sup>738</sup> It has to be admitted that lack of a sector regulator was probably not the only issue. However, considering that the competition authority itself admitted that it does not have the capacity to adequately deal with all the emerging problems and the government ended up putting the sector under a regulator's supervision seem to suggest that general competition law was a weak solution. This, however, dates back to the pre-2005 system and competition is expected to develop by time. Also this example concerns the monopolistic levels of the electricity sector in Germany (which is not the case anymore), which limits the relevance to the competitive levels.

It is interesting to note the contrast between the attitudes towards telecommunications and electricity regulations. In general, the EU telecommunications regulation – although the telecommunications sectors are considered to be more competitive – still upholds the possibility (SMP) regulation. This is because controlling market power is of major importance in newly liberalised markets, as generally the incumbents will retain a large market share.<sup>739</sup> New Zealand experimented with the sole use of competition law in the telecommunication sector, but it did not turn out to be successful.<sup>740</sup>

Early on in the reform process a mixed regulatory solution has been applied for the UK's telecommunications sector, where the regulator enforced essentially competition law. Oftel considered that its powers under the Telecommunications Act 1984, together with the general competition law enforcement were inadequate to control BT's dominance, and was of the view that the preferred solution would

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<sup>738</sup> See Chapter 1

<sup>739</sup> Geradin, O'Donoghue (2005), 360

<sup>740</sup> Geradin, 'Institutional aspects...' (2000) 10

be the application of competition law by the regulator. After considerable debate BT agreed to Oftel's proposal of changing its license considerably by essentially incorporating the EU competition law rules (the current section 101 and 102) which meant that Oftel can enforce these laws directly. These rules, the so called "Fair Trading Conditions" (FTCs), Condition 18A of B.T.'s licence uses the EU competition law standard of "dominance", which means that applying the regulation requires a proper competition assessment, hence the solution is a mixture of regulation and competition policy (similarly to SMP). The government seemed to be pleased with this setup, since it basically reinforced it by the Competition Act 1998, which gave concurrent but principal responsibility of applying the competition rules in the telecommunications sector to the regulator (vis-à-vis the competition authority).<sup>741</sup>

There is also a precedent for the UK for arguing for a cautious de-regulation of the telecommunications sector. Although the UK is well known for its pro-liberalisation attitude, during the debate of the 2002 EU telecommunications regulations package she was one of the parties voicing their concerns that too early regulatory withdrawal would result in loss of competitiveness in the sector. The UK was especially concerned about joint dominance which led to the establishment of a more sophisticated market dominance criterion.<sup>742</sup> Interestingly such concerns over the electricity de-regulation are less visible.

There has been an attempt by the regulator of including a regulatory institution similar to SMP regulation into the licences of the UK's biggest electricity generators. In July 1999 Ofgem started an investigation of the allegedly excessive electricity prices, which led to the proposal of including so called "Market Abuse Licence

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<sup>741</sup> Veljanovski (1999) 25-29

<sup>742</sup> Peter Humphreys, Seamus Simpson, 'Globalization, the 'Competition' State and the Rise of the 'Regulatory' State in European Telecommunications' 2008 (46) JCMS, 862-863

Condition” (MALC) in the generators licences.<sup>743</sup> The MALCs would have enabled the regulator to step up against the abuse of significant market power in the wholesale electricity market.<sup>744</sup> AES and British Energy did not consent to the modification of their licences; therefore Ofgem referred the issue to the Competition Commission. Ofgem informed the other generators concerned that depending on the outcome of the Competition Commission’s findings it plans to reconsider the inclusion of the condition in their licences as well.<sup>745</sup> The Competition Commission rejected the inclusion of the proposed condition in those two licences and therefore Ofgem withdrew the condition from all other licences too. Besides some generator-specific circumstances, the Competition Commission had three main reasons for deciding against the inclusion of the MALCS and insisting on the sole use of competition law:

- The pool system was expected to be changed by the NETA in the autumn of 2000 (although it only happened in 2001).<sup>746</sup> The CC said that it is not possible to forecast if there are likely to be problems with market power under the NETA system, while there is no evidence suggesting that the

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<sup>743</sup> David Newbery, ‘The relationship between regulation and competition policy for network utilities’ 2006 Cambridge Working Papers in Economics, 23

<sup>744</sup> Competition Commission, ‘AES and British Energy: A report on references made under section 12 of the Electricity Act 1989’ available at: [http://webarchive.nationalarchives.gov.uk/+http://www.competition-commission.org.uk/rep\\_pub/reports/2001/453elec.htm](http://webarchive.nationalarchives.gov.uk/+http://www.competition-commission.org.uk/rep_pub/reports/2001/453elec.htm) accessed: 11/03/2013, 88

<sup>745</sup> *Ibid*

<sup>746</sup> Competition Commission, ‘AES and British Energy: A report on references made under section 12 of the Electricity Act 1989’ available at: [http://webarchive.nationalarchives.gov.uk/+http://www.competition-commission.org.uk/rep\\_pub/reports/2001/453elec.htm](http://webarchive.nationalarchives.gov.uk/+http://www.competition-commission.org.uk/rep_pub/reports/2001/453elec.htm) accessed: 11/03/2013, 88

successful operation of NETA would be hindered by the lack of including a prohibition of abuse of market power in the licences.<sup>747</sup>

- According to the CC “such a prohibition would cause uncertainty, because of the difficulty of distinguishing between abusive and acceptable conduct, and would risk deterring normal competitive behaviour”.<sup>748</sup>
- In CC’s view falling market shares made it less likely that firms on the long run are going to be able to abuse market power, even in rare exceptional circumstances.

So in the UK the competitive levels of the electricity sector remained solely governed by competition law which is enforced by the competition authority. In essence the Competition Commission seemed to think that competition law was satisfactory, while the sector regulator would have preferred to have competence as well.

Most importantly, the government seemed not to be content with this arrangement: the Energy Act of 2010 implemented the Market Abuse Licence Condition (MALC) into the law. The so called “exploitation provision” of the act empowers the Secretary of State to modify the licence “for the purpose only of limiting or eliminating the circumstances in which, or the extent to which, a licence holder may obtain an excessive benefit from electricity generation in a particular period”.<sup>749</sup>

The Competition Commission’s “Evaluation of the Competition Commission’s past cases –Final report” of 2008 concluded that according to the market developments

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<sup>747</sup> *Ibid* Para 1.7.

<sup>748</sup> *Ibid* Para 1.12

<sup>749</sup> Energy Act of 2010, Part 3, Para 18 (2)

after the rejection of the MALCS the decision was appropriate.<sup>750</sup> The fact that the Government basically “overruled” this decision by including the MALCs in the new Energy Act seems to show that the Government did not find competition law satisfactory and tries to involve Ofgem more. However, the MALCs have never been used in practice.

The examples mentioned above suggest that competition law is not substantially inappropriate, its concepts and logic fits to the cases concerned. It is the procedural features of competition law which can be accounted for its insufficiency; in a sense SMP regulation seems to offer a superior solution to competition law for cases where the level of competitiveness is relatively low, as it is an ex ante measure, applied by a specialist regulator. As the SMP guideline notes: “competition authority does not, in principle, have the opportunity to conduct a periodic review of its decision in the light of market developments, whereas NRAs are bound to review their decisions periodically” (para 28). SMP regulation offers the benefit of a flexibly (and quickly) adjustable regulation, carried out by the regulator which has the capacity and specialised knowledge likely to be necessary for reformed sectors. Regulation is also better placed to create competition (regulation for competition) than competition law.<sup>751</sup> As Beesley and Littlechild note:

“The U.K. regulator's duty to promote competition reflects in part the fact that it is not possible to move from a nationalized monopoly to a competitive industry in a single step. The regulator needs the authority and duty to complete the process of transition (as does the Secretary

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<sup>750</sup> Competition Commission, ‘Evaluation of the Competition Commission’s past cases – Final report’ (2008) available at: [http://www.competition-commission.org.uk/assets/competitioncommission/docs/pdf/non-inquiry/our\\_role/analysis/evaluation\\_report](http://www.competition-commission.org.uk/assets/competitioncommission/docs/pdf/non-inquiry/our_role/analysis/evaluation_report) accessed: 16/03/2013, 7-8

<sup>751</sup> Geradin, ‘Institutional aspects...’ (2000) 9

of State), otherwise obstacles to competition might remain in place.”<sup>752</sup>

Besides, as competition law is essentially the baseline solution (that is applied currently), when the government expresses its intention to it implies that it is not satisfied by the current state of the electricity sector it implies that competition law alone does not bring the expected outcomes. Admitting that there are issues (which has happened already), but things continue to be the same as there is not seem to be a better solution can have severe political consequences as it makes the government look incapable in the eyes of the voters.

Still, the recent referral of the energy market for a full competition investigation to the CMA,<sup>753</sup> and the changes by the ERA<sup>754</sup> in the concurrent application of competition law by the regulator and the competition authority (strengthening the latter<sup>755</sup>) suggests that competition law and the use of the competition authority is regarded as the solution for the problems of the electricity sector. The CMA report is expected to provide a lot of insight to the electricity sectors competitiveness and the possible problems. Until this report is published far-reaching conclusions on the necessary future steps are not justified. It can still be established that if (according to the findings of the report) a one-off solution cannot solve the (perceived) problems but in the future a more interventionist approach will be

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<sup>752</sup> M. E. Beesley, S. C. Littlechild, ‘The Regulation of Privatized Monopolies in the United Kingdom’ (1989) 20b(3) *The RAND Journal of Economics*, 454, 464

<sup>753</sup> Cf Ofgem, ‘Ofgem refers the energy market for a full competition investigation’ available at: <https://www.ofgem.gov.uk/press-releases/ofgem-refers-energy-market-full-competition-investigation> accessed: 08/10/2014

<sup>754</sup> Enterprise and Regulatory Reform Act 2013

<sup>755</sup> Niamh Dunne, ‘Recasting Competition Concurrency under the Enterprise and Regulatory Reform Act 2013’ (2014) 77(2) *Modern Law Review*, 256

needed, the application of the regulator would be more advantageous than the use of the competition authority.

## 4.2 Government intervention

More recently the British government expressed its intent to “legislat[e] so that energy companies have to give the lowest tariff to their customers”<sup>756</sup> which essentially means direct governmental intervention in the competitive levels of the electricity sector. This would be a rather extreme solution, not frequently used in the EU and it would be inconsistent with the competitive market.

Governmental intervention carries many downsides, which ultimately makes regulation via a regulatory authority a more beneficial solution.

The first issue is very similar to one mentioned before in connection with competition law: lack of specialisation. In terms of government regulation this is perhaps less of an issue though in cases where essentially a ministry – specialised to the sector – is responsible. Still, the regulatory authority tends to be a more specialised entity that is created to focus solely on a sector. This makes an important difference when a sector is complex and highly technical: simply having more information makes the regulator better placed to carry out an intervention.

Secondly, and perhaps more importantly, concerns over political popularity is a central issue for the government but not for the regulator which has considerable implications on regulation. In order to stay in power the governing party needs votes. The need to gain popularity before the election incentivises the government

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<sup>756</sup> ‘Millions to see energy bills fall after David Cameron promises tariff reform’ The Telegraph, available at: <http://www.telegraph.co.uk/finance/personalfinance/consumertips/household-bills/9616124/Millions-to-see-energy-bills-fall-after-David-Cameron-promises-tariff-reform.html> accessed: 22/04/2013

to make populist interventions in the market. This practice might be, however, rather unbeneficial to consumers on the long run. A regulatory authority is free from such political concerns, and by assigning the task of regulation to a separate regulator, the government's possibilities for such politically motivated interventions are reduced by a more technocratic organisation.<sup>757</sup>

Also, occasional government interventions can lead to less transparency. When competencies are shared, it is hard to understand who is doing what and which (whose) agenda will prevail.<sup>758</sup>

Government policies obviously have some influence on regulation. However, it is beneficial for government policies to stay on a level where the decisions do not invoke controversy among the main stakeholders, and leave the more debatable and more technical decisions to sector regulators, which are more resistant to allegations of partiality.<sup>759</sup>

Due to their political nature government interventions also tend to be less predictable, which is however very important for companies' investment decisions.<sup>760</sup>

SMP regulation seems to offer a better solution than government intervention simply because it involves the regulatory authority intervening in the market within a pre-set framework.

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<sup>757</sup> David Coen, 'Business–Regulatory Relations: Learning to Play Regulatory Games in European Utility Markets' 2005 (18) *Governance: An International Journal of Policy, Administration, and Institutions* 377

<sup>758</sup> Hancer et. al. (2003) 359

<sup>759</sup> *Ibid* 361-362

<sup>760</sup> *Ibid* 367-368

Furthermore, changing the legislation – which would involve the parliament or/and the government – would be much slower, besides a specialist body is better placed to understand the changes of the sector and adjust regulation accordingly.<sup>761</sup>

### 4.3 “Ordinary” regulation

Another solution would be ordinary regulation, such as price cap regulation in the network levels. This would neutralise the issues arising out of institutional matters, as it would mean that a sector regulator would apply the regulation.

At the same time this solution would basically empty the idea of the reform, because it would mean that the reform is not more than privatisation. Privatisation, however, does not necessarily lead to efficiency gains in itself<sup>762</sup> which would remove the justification for the reform.<sup>763</sup>

As Littlechild notes: “[c]ompetition is indisputably the most effective means perhaps ultimately the only effective means of protecting the consumers against market power. Regulation is essentially a means of preventing the worst excesses of monopoly; it is not a substitute for competition. It is a means of ‘holding the fort’ until competition arrives”.<sup>764</sup>

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<sup>761</sup> Nagy Csongor István, ‘A jelentős piaci erő jogintézménye a villamosenergia-piac szabályozásában – jogalkotói önellentmondás’ in Verseny és Szabályozás 2008, available at: [http://econ.core.hu/file/download/vesz08/07\\_piaciero.pdf](http://econ.core.hu/file/download/vesz08/07_piaciero.pdf) accessed: 02/03/2013, 152

<sup>762</sup> David Hall, Emanuele Lobina, ‘The relative efficiency of public and private sector water’ (2005) PSIRU Discussion Paper, 2

<sup>763</sup> Waddams (2005) 132

<sup>764</sup> Littlechild (1983) para.4.11

Competition is expected to incentivise firms to keep prices down,<sup>765</sup> hence creating competition as an aim should not be abandoned because that could lead to the aimed efficiency gains.

Also, from a political perspective issuing “ordinary” regulation would be rather embarrassing: politicians rather tend to de-regulate early trying to prove that the reforms are working as expected.<sup>766</sup> Going back to “ordinary” regulation would, however, essentially imply that the whole idea behind the reform was wrong. As the Conservatives started the reform, going back to regulation would mean admitting that they were wrong, which could undermine the credibility of the current Conservative government. Moreover, since the opposition also hailed competition, their political credibility would suffer as well (although to a lesser extent) if they were to go for this solution.

Making only one step back (to SMP regulation) hence, looks like a more favourable and politically more feasible option.

## 5. Conclusion

The starting point of the paper was that although whether the competitiveness of the electricity sector of the UK is satisfactory or not is questionable, since there is growing political pressure for some kind of intervention (especially concerning lower prices) the question is rather what to do, not whether to do something or not. Therefore, this paper is devoted to give guidance on the issue of “what to do”.

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<sup>765</sup> Waddams (2005) 132

<sup>766</sup> William G. Shepherd, ‘Dim prospects: effective competition in telecommunications, railroads and electricity’ 1997 (42) *The Antitrust Bulletin*, 163

More specifically the research question addressed in this chapter is whether the electricity sector could learn from the telecommunications sector by adopting SMP regulation. The use of SMP regulation is the main regulatory difference between the EU electricity and telecommunications regulations, the latter being considered as the “etalon” of the various sector reforms while it is admittedly far from being perfect. SMP regulation in the telecommunications sector is used to control market power after the liberalisation until competition became strong enough to make regulation redundant and competition law can take over.

The paper starts by the introduction of SMP regulation and follows by discussing its pros and cons. It is possible that the features of the telecommunications sector make SMP regulation a more useful tool than it would be in electricity. In order to see whether there is a strong case for this argument, the paper analyses how would SMP regulation (as it is currently applied to the telecommunications sectors) apply to the competitive levels of the electricity sector of the UK, building on the experience of the only country that uses SMP regulation in the electricity sector in the EU: Hungary. This is done within the framework of the 3-step SMP process. It has been found that:

- Market definition is potentially more straightforward than in telecommunications, the markets identified by the Hungarian authority (1. wholesale electricity markets, 2. retail electricity markets, 3. markets for capacity and energy required to ensure ancillary services) seems to be useful in general.
- Collective dominance may be an issue in the UK, but this could be captured by SMP regulation.
- Out of the potential remedies price regulation seems to be only one that could bring real change to the sector (other remedies are either being used already, or not likely to have any significant effect) but this issue is quite controversial. At the same time SMP regulation provides for the use of any alternative intervention that is deemed to be necessary in light of the SMP assessment.

Having concluded that SMP regulation is not too telecommunications specific and can be applied to electricity, the next step is to compare it to alternative solutions.

It is recognised that SMP regulation cannot be compared to perfect competition, because it is particularly unrealistic in the sectors concerned. It only makes sense to compare SMP regulation to the use of other possible solution. The alternatives considered were competition law only, government intervention, ordinary regulation. Recent developments in the UK (the referral of the electricity sector for a full competition investigation to the CMA and ERRA rebalancing the concurrency between the regulators and the competition authority in favour of the latter) may suggest that the competition authority/competition law is regarded as the preferred option. It is would be premature to make far reaching conclusions before the CMA investigation is over, however, if (according to the findings of the report) the electricity sector will need reoccurring interventions the use of the regulator might be a better solution than the use of the competition authority.

Overall, having analysed SMP regulation and compared it to these other second best<sup>767</sup> options the chapter concludes that the introduction of an SMP-style regulation could be a potential and politically feasible alternative solution. Although, introducing SMP regulation to the UK electricity sector would be a pill hard to swallow because it would essentially mean taking a step back from competition law.

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<sup>767</sup> Second best to perfect competition.

## VI. Conclusion

The starting question of the research was whether there are regulatory lessons to be learnt from the comparison of the electricity and telecommunications regulations of the UK and Germany. This has been done by first comparing the regulations and then evaluating the different solutions and checking for their applicability in the other sector or jurisdiction. The initial comparison of the regulations has shown three major differences:

- Separation of the network in the electricity sector while not (so much) in the telecommunications sector, and different regulatory attitudes towards separation in the UK and Germany,
- One authority responsible for the regulation of both the electricity and telecommunications sectors (as well as some other sectors) in Germany while these are regulated by separate authorities in the UK. At the same time there is a common tendency of regulators regulating more sectors/markets (through regulatory mergers or by gaining more competencies).
- In both countries (moreover on the EU level) SMP regulation is used to regulate the telecommunications sector, while there is no such concept within the electricity regulation (except in Hungary).

Chapters 2-4 are devoted to analyse these differences in order to see whether regulatory lessons can be learnt and solutions successful in one country/industry could be applied more widely. Chapter 1 gives a general background of the sectors concerned.

## Conclusion by chapters

The conclusions of the analyses of these differences are provided separately below, then – based on the conclusions of these chapters – the overall conclusion is discussed.

### Chapter 1

Firstly, Chapter 1 gives a description of the developments in the sectors concerned after the reforms. Secondly, these developments are assessed. The general aim behind the reforms was to create as much competition in the sectors as possible. There are many ways this can be (and are) evaluated. This chapter concerns 3 features that are connected to competition: (1) price developments, (2) changes in the market structure focusing on the erosion of the incumbents' market shares and (3) consumer satisfaction. We compare the tendencies and assess if they reflect the expectations of the reform initiatives.

More specifically, we seek to answer two questions:

- Which sectors have better tendencies and
- To what extent these results seem to be connected to the regulations concerned.

Chapter 1 first provides an overview of the changes in the regulations concerned. Then, it looks at data/studies concerning the features chosen: firstly prices<sup>768</sup>, then market shares/concentration<sup>769</sup> and lastly consumer satisfaction<sup>770</sup>.

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<sup>768</sup> Data from: European Central Bank, 'Price effects of regulatory reform in selected network industries'[ 2001], DG Competition, 'Report on Energy Sector Inquiry' SEC(2006)1724 part 2 available at:

[http://ec.europa.eu/competition/sectors/energy/inquiry/full\\_report\\_part2.pdf](http://ec.europa.eu/competition/sectors/energy/inquiry/full_report_part2.pdf) accessed

We find that prices generally tend to increase in the electricity sectors while they are decreasing or stagnating in the telecommunications sectors. Overall, in terms of the telecommunications sector the data shows better tendencies in Germany,

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02/07.2012, EUROSTAT, Sophie Bismut, 'Competition in European Telecom Markets' (2006) 64 Communications & Strategies, Teligen, 'Report on Telecoms Price Developments from 1998 to 2009 - Produced for: European Commission Directorate General for Information Society' available at: [http://ec.europa.eu/information\\_society/digital-agenda/scoreboard/docs/pillar/studies/voice\\_tariff\\_1998\\_2010.pdf](http://ec.europa.eu/information_society/digital-agenda/scoreboard/docs/pillar/studies/voice_tariff_1998_2010.pdf) accessed: 14/07/2012

<sup>769</sup> Data from: Dr. Felix Chr. Matthes, Katherina Grashof, Sabine Gores, 'Power Generation Market Concentration in Europe 1996-2005 - An Empirical Analysis' (2007) available at: [www.oeko.de/oekodoc/308/2007-002-en.pdf](http://www.oeko.de/oekodoc/308/2007-002-en.pdf) accessed 12/08/2014, EUROSTAT, DECC, 'Quarterly domestic energy customer numbers' available at: <https://www.gov.uk/government/statistical-data-sets/quarterly-domestic-energy-price-stastics> accessed at: 15/06/2014, Bundesnetzagentur annual reports, available at: [http://www.bundesnetzagentur.de/cIn\\_1421/EN/General/Bundesnetzagentur/Publications/publications\\_node.html](http://www.bundesnetzagentur.de/cIn_1421/EN/General/Bundesnetzagentur/Publications/publications_node.html) accessed: 15/06/2014, Bismut (2006),

<sup>770</sup> EC, 'Eurobarometer 47.0: L'Europe des Consommateurs, Les Citoyens face a l'ouverture a la concurrence des monopoles de services public.' 1997 available at: [http://ec.europa.eu/public\\_opinion/archives/ebs/ebs\\_110\\_public\\_fr.pdf](http://ec.europa.eu/public_opinion/archives/ebs/ebs_110_public_fr.pdf) accessed: 20/05/2012, EC, 'Eurobarometer 53 : Les Européens et les services d'intérêt généraux.' 2000 available at: [http://ec.europa.eu/consumers/cons\\_int/serv\\_gen/cons\\_satisf/sur15\\_fr.pdf](http://ec.europa.eu/consumers/cons_int/serv_gen/cons_satisf/sur15_fr.pdf) accessed: 20/05/2012

EC, 'Eurobarometer 58: Consumers' opinions about Services of General Interest.' 2002 available at: [http://ec.europa.eu/public\\_opinion/archives/ebs/ebs\\_176\\_summ\\_en.pdf](http://ec.europa.eu/public_opinion/archives/ebs/ebs_176_summ_en.pdf) accessed 20/05/2012

EC, 'Eurobarometer 219 Consumers opinions on Services of General Interest.' 2005 available at: [http://ec.europa.eu/public\\_opinion/archives/ebs/ebs\\_219\\_report\\_en.pdf](http://ec.europa.eu/public_opinion/archives/ebs/ebs_219_report_en.pdf) accessed: 20/05/2012

EC, 'Eurobarometer 260, Consumers opinions on Services of General Interest.' 2007 available at: [http://ec.europa.eu/consumers/cons\\_int/serv\\_gen/cons\\_satisf/eb260\\_report\\_en.pdf](http://ec.europa.eu/consumers/cons_int/serv_gen/cons_satisf/eb260_report_en.pdf) accessed: 20/05/2012, IPSOS INRA, 'Consumer Satisfaction Survey - Final Report' (2007) available at: [http://ec.europa.eu/consumers/cons\\_int/serv\\_gen/cons\\_satisf/consumer\\_service\\_finrep\\_en.pdf](http://ec.europa.eu/consumers/cons_int/serv_gen/cons_satisf/consumer_service_finrep_en.pdf) accessed: 22/05/2012

while in the electricity sector prices are generally lower in the UK although there prices between the two countries converge gradually.

The incumbents' market share losses are more extensive in the UK than in Germany in both sectors. The German telecommunications incumbent have been losing market share to a much greater extent than the electricity supply incumbents, while the electricity generation sector has got more concentrated since the reforms started. In contrast, in the UK the concentration of the electricity generation market has been decreasing, while currently the telecommunications incumbent's (broadband) and the electricity supply incumbents' (average) market share is both around 30% with a slightly increasing trend in telecommunications but a decreasing trend in electricity supply.

In terms of consumer satisfaction until 2004 the UK electricity sector shows the best tendencies, which is followed by the UK telecommunications sector. The German consumers were less satisfied with these services than the UK consumers, while they were much more satisfied with the telecommunications sector than with the electricity sector. Interestingly, according to the IPSOS survey carried out in 2006 the ranking is the exact opposite.

We have found limited correlation between regulatory changes and changes in the tendencies of these features, and concluded that in order to evaluate the regulations a more in-depth and more qualitative analysis is needed. This research is carried out in the following chapters.

## **Chapter 2**

One of the general differences between the electricity reforms and the telecommunications reforms within the EU, is that the electricity reforms rely heavily on industry restructuring while the telecommunications reforms rather just have it as an *ultima ratio* intervention.

Arguably,<sup>771</sup> the networks (or at least part of them) – which is essential for companies on the competitive levels to provide their services – in both sectors constitute a natural monopoly and both sectors had vertically integrated incumbents (monopolies). The incumbent operator has an incentive to preserve its position (keep competitors out of the market), and can easily do that by restricting access to the network without which competitors cannot provide a service. Such anti-competitive practice can be tackled in two ways:

- By ordering the incumbent to separate the network business: the separate company that runs the network have *no incentive* to discriminate between companies on the competitive levels seeking access to the network in order to be able to provide services.
- By regulating the terms of access: the incumbent still have an incentive to try and promote its branch on the competitive level by providing better access to the networks that is essential to compete, but it has no freedom to do that, since the terms of access are not dependent on the company but they are regulated by an independent authority.

Arguably, separating the levels is a more effective solution to provide access to the network. This is because it affects the incentive to distort the competitive market through the terms of access, while regulation only disables offering access with unequal terms, but the network company still has an incentive to try and circumvent the regulation.

While electricity regulations in the EU tend to rely on the first option, the telecommunications regulations rely on the second one. This raises several questions: why choosing to apply an allegedly weaker solution to provide access to

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<sup>771</sup> While it seems to be clear that the electricity networks (transmission and distribution) are natural monopolies, in telecommunications the fixed network to some extent competes with the cable network, and also the mobile networks can offer some alternative.

the network in the telecommunications sector when access is crucial to have competition in the related levels? Does access work differently in the telecommunications sector than in the electricity sector or is it less important in term of enabling competition? Accordingly, the second chapter seeks to answer if there is a justification for the different regulatory solutions applied in order to provide access to the network in the two sectors.

The question is answered in two steps. The chapter first looks at the theory behind vertical separation, and then the practical results of vertical separation (in terms of creating access) are assessed.

The first part starts with describing the pros and cons of vertical separation and then it looks at the concerns over anti-competitive practices in the lack of vertical separation. Finally, the different degrees of vertical separation are considered. The conclusion on this part is that vertical separation in general (i.e. in both the electricity and telecommunications sectors) should be a stronger tool than regulation in providing access to the network. At the same time (depending on the features of the integration concerned) vertical separation may lead to efficiency gains or losses. This means that depending on the features of the integrated business, ordering separation may lead to considerable loss of efficiencies. The aim of providing access (and thereby enhancing competition) and enhancing efficiency arising out of vertical integration, can be balanced by using different degrees of separation, the highest being ownership separation, while the baseline is simple access regulation.

This might mean that overall, consumer welfare can be maximised by the separation of the networks in the electricity sector but allowing integration in the telecommunications sector. However, this issue is outside of the scope of the chapter; the focus is solely on access, and access in theory should be facilitated by a higher degree of separation.

The second part aims to assess whether more complete separation leads to enhanced entry in practice by looking at market structure statistics (from Chapter

1) in more detail. This enables the evaluation of loss of the incumbents' market shares. It is understood that the structure of the market does not depend solely on entry occurring due to the fair terms of access (the most obvious alternative factor is probably scale of economics: the number of market participants depends on the size of the market and the scale of economics in the production), however, the market structure is a measurable feature closely related to access. Besides, the data on the market structure are used widely by both public bodies and authorities in order to evaluate the regulations concerned.

In the second part firstly the regulations of the Member States concerned are described. The UK and Germany offers a great basis of comparison because the regulations of these Member States have very different attitude towards the subject, the UK being much more pro-separationist than Germany. In the UK right at the beginning of the reform ownership separation have been ordered between the generation and the related transmission network, and about ten years later also legal separation between the distribution networks and the supply level was made mandatory. In the UK, the telecommunications incumbent's network business has also been (functionally) separated. In contrast in Germany no separation was ordered in the electricity sector at the beginning of the reform, only later on when separation was compulsory due to EU law. The German telecommunications incumbent's network business remained integrated with the rest of the company even though EU bodies established that the Germany telecommunications incumbent did not provide fair access to the network.<sup>772</sup>

The comparison of the UK and Germany therefore allows us to evaluate the effect of separation and the lack of separation in both the electricity and the telecommunications sector. This is done by analysing the market structure: trends in the incumbents' market share loss, and (in the electricity generation levels, where there were more than one incumbents') number of firms present in the

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<sup>772</sup> CF *Deutsche Telekom AG v European Commission* (C-280/08 P) [2010] 5 C.M.L.R. 27.

market. We found stronger correlations between more complete separation and the incumbents' market share loss in the electricity sectors than in the telecommunications sectors in both countries. Although, the UK telecommunications incumbent's market share (broadband) is about half the German incumbent's, this is hardly linked to its separation; the market share of the UK incumbent rather increased slightly after the separation.

We therefore concluded that although a more complete separation in theory provides a stronger solution to ensure fair access, in practice there is more evidence for this in the electricity sector than in the telecommunications sector, which means that the use of different solutions in the two sectors seem to be justified even on the basis of access. Since the practical results suggest that in respect of vertical separation there are substantial differences between the electricity and telecommunications sectors, we conclude that cross-sectoral regulatory lessons cannot be drawn.

### **Chapter 3**

Another difference in the electricity and telecommunications regulatory regimes of the UK and Germany is that Germany operates one regulator that regulates both industries while in the UK the sectors are regulated by separate regulators. In the UK there is one regulator (Ofgem) responsible for the electricity and gas sectors (together often referred to as the energy sector) and one (Ofcom) responsible for regulating the telecommunications sector. In contrast in Germany the Bundesnetzagentur regulates the electricity, gas, telecommunications, postal and rail sector.

Looking at the history of the reforms, however, shows a similar tendency in this respect in both countries: merging regulators (in the UK) and expanding the competence of the regulator to more sectors (in Germany). Ofgem is a result of the merger of Offer (previously the electricity regulator) and Ofgas (previously the gas

regulator).<sup>773</sup> Ofcom has been created through merging Oftel (the previous telecommunications regulator), the Radiocommunications Agency (who regulated the mobile sector together with Oftel), and the Broadcasting Standards and Independent Television Commission.<sup>774</sup> The Bundesnetzagentur has started off as a telecommunications and post regulator (previously known as the Regulierungsbehörde für Telekommunikation und Post) then new competency areas were added to these. In essence developments in both countries resulted in one authority having to deal with an increased number of sectors.

Very recently some EU countries took this even further by merging their sector regulators and their competition authorities. The Netherlands established the Netherlands Authority for Consumers and Markets on the 1st April 2013. This entity has been created by merging the Netherlands Consumer Authority, the Netherlands Competition Authority and the Netherlands Independent Post and Telecommunication Authority (OPTA).<sup>775</sup> A few months later Spain created the National Markets and Competition Commission (Comisión Nacional de los Mercados y la Competencia) by merging the competition authority with numerous sector regulators, creating a super-regulator enforcing competition rules and regulating the telecommunications, energy, railway, postal, audiovisual issues and also airports.<sup>776</sup>

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<sup>773</sup> Ordered by the Utilities Act 2000

<sup>774</sup> As defined by the Communications Act 2003

<sup>775</sup> CF The Netherlands Competition Authority's press release: 'Green light for the Netherlands Authority for Consumers and Markets' available at [http://www.nma.nl/en/documents\\_and\\_publications/press\\_releases/news/2013/05\\_13\\_green\\_light\\_for\\_the\\_netherlands\\_authority\\_for\\_consumers\\_and\\_markets.aspx](http://www.nma.nl/en/documents_and_publications/press_releases/news/2013/05_13_green_light_for_the_netherlands_authority_for_consumers_and_markets.aspx) accessed: 28/02/2013

<sup>776</sup> ECN Brief, 'Spain: Creation of the new National Markets and Competition Commission, CNMC' available at: [http://ec.europa.eu/competition/ecn/brief/03\\_2013/es\\_cnmc.pdf](http://ec.europa.eu/competition/ecn/brief/03_2013/es_cnmc.pdf), accessed at: 15/03/2014

It is interesting to see this tendency of merging regulators in the EU. The Member States were free to choose the structure of their regulators; the EU law contained no restrictions in this respect.<sup>777</sup> Most regulatory authorities in the EU were created between 1996 and 1998<sup>778</sup> and roughly 10 years earlier in the UK. At this time Member States preferred to set up single sector regulators. The trend of establishing multi sector regulators started only recently, Germany being at the forefront by setting up the Bundesnetzagentur in 2005. At the same time multi sector regulators are not new inventions. They have a history especially in Third World countries and they have been studied widely. The primary reason for setting up multi sector regulators there is lack of funding and experts available for operating separate entities. This, however, is unlikely to be the main reason behind the merger in EU countries. This tendency in the EU therefore raises number of questions: are multi sector regulators superior – so the UK could learn from Germany in setting up a multi sector regulator as well? Does it make sense to start merging regulators just now or would it have been better to start by creating such entities in the first place? The third chapter is aimed at answering these questions.

The chapter starts by describing the relevant developments in the UK and Germany; the significant difference between the current regulators in these countries and the similar tendencies of merging regulators. The Dutch and Spanish examples are out of the scope of the research, not simply because the thesis compares the UK and Germany, but also because merging regulators with competition authorities lead to numerous additional issues to be considered, and this would take away the focus from simply mergers between regulatory authorities.

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<sup>777</sup> Damien Geradin, 'Institutional aspects of EU regulatory reforms in the telecommunications sector: an analysis of the role of national regulatory authorities' (2000) 1 *Journal of Network Industries*, 5, 18

<sup>778</sup> Damien Geradin, 'Institutional aspects of EU regulatory reforms in the telecommunications sector: an analysis of the role of national regulatory authorities' (2000) 1 *Journal of Network Industries*, 5, 6

This is followed by the description of the most important features (in this respect) of the regulatory authorities: independence, accountability, ability to resist capture, cost effectiveness and regulatory quality.

In order to answer the first question – whether multi sector regulators are superior to single sector regulators – we analyse the potential changes in the key features that arise out of changing the structure of the regulators, all other things being equal. This analysis leads to a collection of the main pros and cons of creating multi sector regulators. We find that the pros and cons are both significant, therefore it cannot be stated that multi sector regulators are superior to single sector regulators.

This leads to the next question: is it justified to merge the regulators? The chapter analyses the importance of the pros and cons in the early stages of the reform and then in a more developed stage. We find that generally the pros of the multi sector regulators (which are at the same time the pros of the single sector regulators) are less important at the beginning of the reform, but they become more important as the reforms develop and it is the other way around with the cons. For example the risk of regulatory failure is higher with multi sector regulators, simply because if the regulator fails, it will affect all the sectors regulated by it, however, there is a higher probability of such an occasion when the regulator has less experience, than later on. Also, multi sector regulators are perceived to be more resistant to capture, but since capture takes time, it is less of an issue in the initial stages of the reforms. These mean the creating single sector regulators and then merging them is more beneficial than creating multi sector regulators at the start.

The next question is whether there is a potential for the UK to learn from Germany, i.e. to create a similar multi sector regulator. More generally this question is about how to time the regulatory mergers. In this respect some of the pros and cons are less relevant than others, either because there are alternative (and perhaps better) ways of adjusting them (for example independence or accountability can primarily be changed by the specific relevant rules), or because they are not visible (for example when capture or regulatory failure becomes visible it is normally already

too late). We found that perhaps the most useful features in this respect are mergers between the different regulated sectors and costs savings. Mergers between the regulated sectors is highly visible and at the same time there are clear benefits arising out of one regulator regulating one business entity that is present in different sectors. Potential cost savings can also be calculated having in depth information on the operation of the regulators. We find that since there is no visible trend of companies expanding from the electricity to the telecommunications sector (or *vica versa*) a merger between Ofcom and Ofgem could rather only be justified based on costs savings.

## Chapter 4

The last major difference we have identified having compared the electricity sectors and the telecommunications sectors of the UK and Germany is that the telecommunications regulations to a large extent build on the concept of SMP regulation while the electricity regulations do not use a similar tool.<sup>779</sup> The same can be found in (or perhaps in a sense originates from) EU law. Except for Hungary, none of the Member States use SMP regulation in the electricity sector.

Chapter 2 described how – as part of the electricity reforms – the networks (monopoly levels) were separated from the competitive levels of the electricity sector (generation and supply), while in telecommunications sector used a more behavioural regulation (structural separation under this regulation is possible, but only as a last resort). Currently, the competitive levels of the electricity sectors of both the UK and Germany are free from regulation (price regulation has been abolished), while SMP regulation still applies to the telecommunications sector in

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<sup>779</sup> The Market Abuse Licence Conditions in the UK are similar but they have never been used in practice.

general. This is rather surprising, since the telecommunications reforms are more mature than the electricity reforms, and the telecommunications reforms also seem to be generally more successful than the electricity reforms.<sup>780</sup> Still, in telecommunications there is more regulatory oversight than in the electricity regimes.

The electricity reform of the UK seem to be among the most successful ones in the EU in terms of creating competition based on the number of competitors on the market. At the same time political pressure on the electricity sector is growing in the UK: both the Conservatives and the Labour Party expressed concerns over the recent trends in the electricity reform (especially rising prices) arguing for a more interventionist approach. Whether these political concerns are justified or not are debatable, however we believe that this debate should be based on economics and not law. Perhaps the most relevant legal issue in this respect is to analyse the conceptual different options to intervene the market in case it would be deemed necessary.

Accordingly, this chapter is aimed to analyse if the electricity regulation could “learn” from the telecommunications regulation by introducing a regulatory concept similar to SMP regulation.

The analysis starts off by describing what SMP regulation is and how it works. We argue the SMP regulation is conceptually half way between “ordinary” regulation and competition law. For example, it is applied ex-ante and it is carried out by a sector regulator instead of a competition authority, but the application of the regulation is very similar to how abuse of dominance cases are assessed under competition law<sup>781</sup>: in the first step the market is defined, than companies having significant market power are identified, finally remedies are chosen to be applied.

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<sup>780</sup> CF the findings of Chapter 1

<sup>781</sup> Although there are differences in the details.

This combination makes it an especially useful tool to handle the period at the beginning of the reform. After the liberalisation there is normally an incumbent that dominates the market. It takes time for competitors to erode the dominant position of the incumbent or in other words for competition to reach a sufficiently developed stage. The incumbent's market power during this period calls for enhanced control and supervision which could be done better by a sector regulator than by a competition authority. However, it is beneficial to have a regulation that is flexible and can be restricted to only the necessary areas. The next part describes the pros and cons of SMP regulation, its strong and weak sides in more detail. The literature on this issue is well developed; SMP regulation is a widely debated topic.

So far SMP regulation was considered as it applies to the telecommunications sector. The next part considers the way it could be used in the electricity sector. This part relies on the pros and cons described earlier and analyses whether the different features of the electricity sector makes SMP regulation less able to control market power in this sector. We build on the Hungarian experience of using SMP regulation in the electricity sector as well, and contrast it to the features of the electricity sector in the UK, in order to reduce country specificity.<sup>782</sup> We find that defining the market (step 1) is easier in electricity than in telecommunications since the sector is less complex. This also means that there is less scope for errors in electricity through the use of the SSNIP test.<sup>783</sup> In terms of identifying companies having SMP (step 2), we found that the situation of the UK electricity sector could be challenging, since there is certainly no single incumbent (as opposed to the Hungarian electricity sector, or perhaps the telecommunications sector of the UK).

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<sup>782</sup> Country specific features could mean that – although it is the same sector – the regulation is appropriate in one country but not in another.

<sup>783</sup> Such as the Cellophane fallacy.

SMP regulation can be applied to joint dominance<sup>784</sup>, although the higher ratio of firms are regulated the less can benefits will prevail out of the asymmetric regulations. Lastly we assess the remedies available (step 3), especially price regulation. The issue here is controversial since whether intervention to the electricity sector in the UK is necessary is questionable in the first place. This research, however only concerns SMP regulation as a potential alternative of more conventional types of interventions, if intervention will be deemed necessary. In this respect, since SMP regulation offers a wide toolkit when it comes to remedies (as a matter of fact according to Article 8 of the Access Directive the regulator may impose remedies outside this list given) we are off the view that SMP regulation could be appropriate. Having assessed the main types of remedies normally available under SMP regulation, we have identified price regulation as an arguably helpful new remedy.

Lastly, the chapter concerns some other solutions: competition law, government intervention and “ordinary” regulation. In terms of the first one we find that since the use of competition law is the baseline scenario, if more intervention will deemed to be necessary, this by definition should be more than simply competition law. SMP regulation offers an alternative since its potential to intervene exceeds what competition law offers and it is carried out by a sector regulator that has more sector specific knowledge and resources to offer better control over market power. The second option (government intervention) is essentially rejected on the basis that this would lead to politically motivated regulation, which would reduce legal certainty. This would be especially harmful in a sector such as electricity where long term decision making is crucial. The use of a regulator would be more beneficial since it is more of a technocratic, non-political body. Lastly, we find that

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<sup>784</sup> CF Andrew Tarrant, ‘Significant market power in the regulation of telecommunications markets’ 2000, 21(7) European Competition Law Review, 323

“ordinary” regulation would be in a sense taking two steps back,<sup>785</sup> which is potentially unnecessary, besides SMP regulation offers more flexibility to facilitate competition and gradually hand over the market for the sole governance of competition law.

On this basis, we conclude that using SMP regulation in the electricity sector is a potential alternative if a more interventionist approach will be considered necessary and the use of SMP regulation would be in many respects more beneficial than some other types of interventions.

### **Overall conclusion**

We have analysed three areas where differences exist between the electricity and telecommunications regulation of the UK and Germany. Our goal was to see whether there are cross-sectoral lessons to be learnt. Out of the three areas in two we have found no potential for wider application:

- In terms of vertical separation (which is widely used in electricity but not so much in telecommunications) we found that – although in theory it should promote access and thereby competition in general – there is no evidence that would support its wider application in practice in the telecommunications sector.
- Regarding the creation of super regulators we found that overlaps between industries (in terms of ownership etc.) provide the most compelling case for regulatory mergers. Since there are such no visible links between the

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<sup>785</sup> This is because we argue that conceptually SMP regulation is half way between competition law and ordinary regulation.

electricity and telecommunications sectors of the UK yet, the creation of a German-style super regulator is unlikely to be justified.<sup>786</sup>

We discovered one area where there is a potential for the electricity regulation to learn from the telecommunications regulation: the application of SMP regulation.

Recent political statements in the UK<sup>787</sup> suggest that there is a dissatisfaction with the way the country's electricity sector is serving the society. Especially prices are mentioned as being too excessive.<sup>788</sup> At the same the electricity prices in the UK are below (consumer prices<sup>789</sup>) or only slightly above (industrial prices<sup>790</sup>) the EU average, which might suggest that (if UK prices are excessive) there are problems with the electricity sector in many other Member States as well.

Electricity prices are defined by several factors. However, the fact that Ofgem recently referred the electricity sector for a full competition investigation to the

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<sup>786</sup> Unless there are potentials for cost savings.

<sup>787</sup> 'Millions to see energy bills fall after David Cameron promises tariff reform' The Telegraph, available at: <http://www.telegraph.co.uk/finance/personalfinance/consumertips/household-bills/9616124/Millions-to-see-energy-bills-fall-after-David-Cameron-promises-tariff-reform.html> accessed: 22/04/2013,

'Ed Miliband: Labour would freeze energy prices' BBC, available at: <http://www.bbc.co.uk/news/uk-politics-24213366> , accessed: 24/10/2014

<sup>788</sup> CF 'UK energy bill crisis looms as consumers pay more despite using less' The Guardian, available at: <http://www.theguardian.com/business/2014/oct/17/britain-energy-bill-crisis-gas-electricity> accessed: 22/10/2014

<sup>789</sup> CF EUROSTAT, 'Electricity prices for households consumers 2013 – second semester' [http://epp.eurostat.ec.europa.eu/statistics\\_explained/index.php/File:Electricity\\_prices\\_for\\_households\\_consumers\\_2013s2.png#file](http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/File:Electricity_prices_for_households_consumers_2013s2.png#file), accessed 26/10/2014

<sup>790</sup> CF EUROSTAT, 'Electricity prices for industrial consumers 2013 – second semester' available at: [http://epp.eurostat.ec.europa.eu/statistics\\_explained/index.php/File:Electricity\\_prices\\_for\\_industrial\\_consumers\\_2013s2.png](http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/File:Electricity_prices_for_industrial_consumers_2013s2.png), accessed: 26/10/2014,

CMA<sup>791</sup> may suggest that the problem is believed to be related to how the competitive levels function. In the UK electricity sector, market power (which may have been abused to obstruct competition) can only exist in a joint form; in an EU comparison the UK electricity sector is fairly unconcentrated.<sup>792</sup>

We argue that SMP regulation – a solution similar but stronger than competition law, applied by a regulator – could provide a solution to the perceived problems. The fact that Ofgem referred the sector to the CMA, together with the regulatory changes brought about by the ERRA<sup>793</sup> which strengthen the CMA vis a vis the sector regulators<sup>794</sup> seem to signal that currently the CMA is perceived to be the key to solve the issues of the electricity sector. Before the publication of the CMA's report on the matter it would be premature to draw far-reaching conclusions about this. However – especially if the findings will suggest that there are issues with the sector that cannot be remedied by a one-off intervention – the use of SMP regulation is likely to be a better solution than using the CMA. This is mainly because SMP regulation is applied by a regulator who has more capacity and better knowledge of the sector, which are important when there is a reoccurring need for intervention.

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<sup>791</sup> Ofgem, 'Ofgem refers the energy market for a full competition investigation' available at: <https://www.ofgem.gov.uk/press-releases/ofgem-refers-energy-market-full-competition-investigation> accessed: 26/10/2014,

<sup>792</sup> CF Market concentration data in Chapter 1.

<sup>793</sup> Enterprise and Regulatory Reform Act 2013

<sup>794</sup> Niamh Dunne, 'Recasting Competition Concurrency under the Enterprise and Regulatory Reform Act 2013' (2014) 77(2) *Modern Law Review*, 256

## **Further research**

The section below concerns the limitations of the thesis, and in line with the possibilities for further research.

### **In General**

It has been mentioned that there is a trade-off between depth and the range of the research when resources are fixed. This thesis only concerned two countries the UK and Germany<sup>795</sup> in more detail. Although, these countries are very different from a regulatory perspective, they are among the largest and most developed countries in the EU. The geographically/jurisdictionally restricted scope is, however, a limitation towards the general (EU level) applicability of the findings.

This limitation could be decreased by considering more countries. This could be done using a structured approach. The EU Member States are classified in many different ways, based on their size, location, time of EU accession, currency etc. Firstly, an appropriate method should be chosen to enhance the coverage of the study then the research could be carried out similarly to the current method of analysing the respective issues in the UK and Germany.

## **Possible extensions**

### **Chapter 2**

Currently, under chapter 2 only functional separation of the telecommunications network is considered, and based on the UK experience the conclusion was that in

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<sup>795</sup> Although in Chapter 4 Hungary is considered too.

practice ordering functional separation may not enhance entry. However, ownership separation – that is an even more complete type of separation, as well as a stronger intervention to the sector – is not considered. Ownership separation in the telecommunications sector is rather rare, but there are countries such as Singapore and New Zealand which are experimenting with it. Analysing the developments in such countries could be used to take the research further in this respect.

Another limitation is that the chapter does not concern efficiencies, only entry. We have shown that there may be a trade-off between efficiencies that can arise out of the integrated operation and facilitating access. In order to assess whether separation in the telecommunications sector leads to enhanced or decreased consumer surplus a full cost-benefit analysis would be needed. This would however require extensive economic analysis.

### **Chapter 3**

Chapter 3 concluded that “a merger between Ofcom and Ofgem could rather only be justified based on costs savings”. The robust assessment of potential costs savings would require detailed information on the workload and the internal day to day operation of the authorities concerned.

Another way of taking the research further would be to analyse regulatory mergers that also include the competition authority. As it has been mentioned, the research refrained from this, because it would necessitate considering conceptually different legal issues. Furthermore the scope of the research is regulatory differences between the UK and Germany and none of these countries have a precedent for such merger.

## Chapter 4

It has been mentioned that the research here is restricted to legal issues. This has shown that SMP regulation could be applied to the electricity sector and it would potentially be a better solution than some other types of interventions. However, there are some additional questions here that could be answered by economic analysis.

Firstly, whether any additional intervention is necessary: in this respect the current level of competition should be analysed to see whether there are problems and if so how could they be solved. More information on this is expected to go public after the CMA finishes its investigation.

Secondly, we have only compared and evaluated SMP regulation vis a vis some other solution from a legal perspective but a full regulatory impact assessment would be needed to analyse the related economic issues.

## Bibliography

- Anderson, John A. 'Electricity Restructuring: A Review of Efforts around the World and the Consumer Response' 2009 (22) *The Electricity Journal*, 70
- Bacchiocchi , Emanuele - Florio, Massimo - Gambaro, Marco 'Telecom reforms in the EU: Prices and consumers' satisfaction' 2011 (35) *Telecommunications Policy*, 382
- BBC, 'Ed Miliband: Labour would freeze energy prices' available at:  
<http://www.bbc.co.uk/news/uk-politics-24213366> , accessed: 24/10/2014
- Beesley, M. E. - Littlechild, S. C. 'The Regulation of Privatized Monopolies in the United Kingdom' (1989) 20b(3) *The RAND Journal of Economics*, 454,
- Berbaerts, Inge 'Time to deregulate — Commission consultation on a new EU framework for electronic communications' (2006) 3 *Competition Policy Newsletter* available at:  
[http://ec.europa.eu/competition/publications/cpn/cpn2006\\_3.pdf](http://ec.europa.eu/competition/publications/cpn/cpn2006_3.pdf)  
accessed: 14/12/2013, 11
- Bismut, Sophie 'Competition in European Telecom Markets' (2006) 64 *Communications & Strategies*,
- Blankart, Charles Beat – Knieps, Gunter - Zenhausern, Patrick 'Regulation of new markets in telecommunications: market dynamics and shrinking monopolistic bottlenecks' 2007, 8(3) *European Business Organization Law Review* 418
- Börsch, Alexander 'What happens after privatization? Globalization, corporate governance and adjustment at British Telecom and Deutsche Telekom' (2004) 11 *Journal of European Public Policy* 600

Boyfield, Keith - Ambler, Tim 'Do the UK Regulatory Agencies Provide Taxpayer Value?' 2004 London Business School Centre for Marketing Working Paper No. 04-902.1, 3

Brisby, Paul 'The regulation of telecommunications networks and services in the United Kingdom' 2006, 12(4) Computer and Telecommunications Law Review, 117

Brunekreeft, Gert 'Regulation and Third-Party Discrimination in the German Electricity Supply Industry' (2002) 13 European Journal of Law and Economics 203

Bundesnetzagentur annual reports, available at:

[http://www.bundesnetzagentur.de/cIn\\_1421/EN/General/Bundesnetzagentur/Publications/publications\\_node.html](http://www.bundesnetzagentur.de/cIn_1421/EN/General/Bundesnetzagentur/Publications/publications_node.html) accessed: 15/06/2014, Bismut (2006),

Bundesnetzagentur, 'Annual Report 2012 Energy, communications, mobility: shaping expansion together' available at:

[http://www.bundesnetzagentur.de/SharedDocs/Downloads/EN/BNetzA/PressSection/ReportsPublications/2013/AnnualReport2012.pdf?\\_\\_blob=publicationFile&v=3](http://www.bundesnetzagentur.de/SharedDocs/Downloads/EN/BNetzA/PressSection/ReportsPublications/2013/AnnualReport2012.pdf?__blob=publicationFile&v=3) accessed at: 15/06/2014, p. 75

Business and Enterprise Committee, 'Energy prices, fuel poverty and Ofgem' HC Eleventh Report of Session 2007–08 Vol I

Cadman, Richard 'Means not ends: Deterring discrimination through equivalence and functional separation' (2010) 34 Telecommunications Policy, 367, Richard Whish, Competition Law (6th edn OUP, London 2009) 607-608

Cadman, Richard 'Invention, Innovation and Diffusion of Local Loop Unbundling in the UK' (2012) 12-8 CCP Working Paper available at:

[http://competitionpolicy.ac.uk/c/document\\_library/get\\_file?uuid=725f4cd4](http://competitionpolicy.ac.uk/c/document_library/get_file?uuid=725f4cd4)

-26b5-456d-ba00-15a00d489371&groupId=107435 accessed: 28/05/2012,  
13

Cameron, Peter D 'Reforming Energy Markets: a Review Article' (2000) 18 Journal of Energy & Natural Resources Law 358

Cave, Martin 'Six Degrees of Separation : Operational Separation as a Remedy in European Telecommunications Regulation' (2006) 64 (4) Communications & Strategies, 89

CEER, 'Status Review on the Transposition of Unbundling Requirements for DSOs and Closed Distribution System Operators' available at: [http://www.energy-regulators.eu/portal/page/portal/EER\\_HOME/EER\\_PUBLICATIONS/CEER\\_PAPERS/Cross-Sectoral/Tab/C12-UR-47-03\\_DSO-Unbundling\\_Status%20Review\\_Public.pdf](http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/CEER_PAPERS/Cross-Sectoral/Tab/C12-UR-47-03_DSO-Unbundling_Status%20Review_Public.pdf) accessed: 15/06/2014, p. 32

Ceriani, Lidia - Doronzo, Raffaele - Florio, Massimo 'Privatization, Unbundling and Liberalization of Network Industries: a Discussion of the Dominant Policy Paradigm in the EU' (2009) UNIMI Working Paper n. 2009-09 13

Cieslarczyk, Michael – Ungemach, Manfred 'Liberalisation and Energy Exchanges in Germany' in Martha M. Roggenkamp, François Boisseleau The regulation of power exchanges in Europe Volume 2 of Energy & law (2005 Intersentia)

Clifton, Judith - Comín, Francisco - Díaz Fuentes, Daniel ' Empowering Europe's citizens? On the prospects for the Charter of Services of General Interest' (2005) 7:3 Public Management Review, 432

Clifton, Judith - Díaz-Fuentes, Daniel 'Evaluating Eu Policies On Public Services: A Citizens' Perspective' (2010) 81:2 Annals of Public and Cooperative Economics 284

Coen, David 'Business–Regulatory Relations: Learning to Play Regulatory Games in European Utility Markets' 2005 (18) Governance: An International Journal of Policy, Administration, and Institutions 377

Competition Commission, 'AES and British Energy: A report on references made under section 12 of the Electricity Act 1989' available at: [http://webarchive.nationalarchives.gov.uk/http://www.competition-commission.org.uk/rep\\_pub/reports/2001/453elec.htm](http://webarchive.nationalarchives.gov.uk/http://www.competition-commission.org.uk/rep_pub/reports/2001/453elec.htm) accessed: 11/03/2013, 88

Competition Commission, 'Evaluation of the Competition Commission's past cases – Final report' (2008) available at: [http://www.competition-commission.org.uk/assets/competitioncommission/docs/pdf/non-inquiry/our\\_role/analysis/evaluation\\_report](http://www.competition-commission.org.uk/assets/competitioncommission/docs/pdf/non-inquiry/our_role/analysis/evaluation_report) accessed: 16/03/2013,

Copenhagen Economics: Market Opening in Network Industries: Part II Sectoral Analyses, Copenhagen Economics for DG Internal Market, 2005

Crandall, Robert W. - Eisenach, Jeffrey A. - Litan, Robert E. 'Vertical Separation of Telecommunications Networks: Evidence from Five Countries' (2010) 62 Federal Communications Law Journal, 496

Dabbah, Maher M. 'The relationship between competition authorities and sector regulators' (2011) 70 (1) Cambridge Law Journal, 115

Dal Bo, Ernesto 'Regulatory Capture: a Review' (2006) 22 Oxford Review of Economic Policy, 203

Davies, Lesley - Wright, Kathryn - Waddams, Catherine 'Experience of Privatisation, Regulation and Competition: Lessons for Governments' CCP Working Paper 05-5,

Davies, Stephen – Waddams, Catherine 'Does Ownership Unbundling Matter? Evidence from UK Energy Markets' 2007 (Nov-Dec) Intereconomics, 298

De Streel, Alexandre 'The new concept of "significant market power" in electronic communications: the hybridisation of the sectoral regulation by competition law' 2003, 24(10) European Competition Law Review, 535

- DECC, 'Quarterly domestic energy customer numbers' available at:  
<https://www.gov.uk/government/statistical-data-sets/quarterly-domestic-energy-price-stastics> accessed at: 15/06/2014,
- DECC, 'UK energy sector indicators 2011: industrial and business competitiveness dataset' available at:  
<http://www.decc.gov.uk/publications/basket.aspx?filetype=4&filepath=11%2fstats%2fpublications%2findicators%2f3337-uk-energy-sector-inds-2011-ind-and-bus.xls&minwidth=true#basket> accessed 10/07/2012
- del Real, Valdivielso 'Takeovers and the Evolution of the Electricity Sector in Britain and Spain: the Insights and Limits of the Varieties of Capitalism Perspective' CSGR Working Paper 259/09 38
- Deutsche Telekom, ' Annual Report 2013' available at:  
<http://www.annualreport.telekom.com/site0413/en/management-report/development-of-business-in-the-operating-segments/germany/index.php?page=91> accessed 15/06/2014
- DG Competition, 'Report on Energy Sector Inquiry' SEC(2006)1724 part 2 available at:  
[http://ec.europa.eu/competition/sectors/energy/inquiry/full\\_report\\_part2.pdf](http://ec.europa.eu/competition/sectors/energy/inquiry/full_report_part2.pdf) accessed 02/07.2012,
- Dobbs, Ian - Richards, Paul 'Innovation and the new regulatory framework for electronic communications in the EU' 2004, 25(11) European Competition Law Review, 718
- Doherty, Barry 'Competition law and sector-specific regulation' 2001, 7(8) Computer and Telecommunications Law Review, 226
- Dunne, Niamh 'Margin Squeeze: From Broken Regulation to Legal Uncertainty' (2011) 70 The Cambridge Law Journal,

- Dunne, Niamh 'Recasting Competition Concurrency under the Enterprise and Regulatory Reform Act 2013' (2014) 77(2) Modern Law Review, 256
- Eberlein, Burkard - Grande, Edgar 'Regulation And Infrastructure Management: German Regulatory Regimes And The Eu Framework' (2000) 1 German Policy Studies available at: <http://www.spaef.com/file.php?id=813> accessed: 14/09/2012, 45
- Eberlein, Burkard 'Beyond delegation: transnational regulatory regimes and the EU regulatory state' 2005 (12) Journal of European Public Policy 104,
- Eberlein, Burkard 'Institutional Change and Continuity in German Infrastructure Management: The Case of Electricity' (2000) 9 German Politics, 89
- ECN Brief, 'Spain: Creation of the new National Markets and Competition Commission, CNMC' available at: [http://ec.europa.eu/competition/ecn/brief/03\\_2013/es\\_cnmc.pdf](http://ec.europa.eu/competition/ecn/brief/03_2013/es_cnmc.pdf), accessed at: 15/03/2014
- EIUG 'Business, Enterprise & Regulatory Reform Committee Inquiry: possible anti-competitive behaviour in the UK's energy market' (2008) Memorandum from the Energy Intensive Users Group available at: <http://www.eiug.org.uk/publics/I010408w1.pdf> accessed: 22/04/2013,
- Energia Kontroll Projekt, 'Kormányzati kudarcok, járadékvadászat és korrupció kockázatok a magyar villamosenergia-szektorban' available at: [http://energiakontrollprojekt.hu/info/wp-content/uploads/2010/05/EKP\\_tanulmany\\_Jaradekvadaszat-es-korrupcio.pdf](http://energiakontrollprojekt.hu/info/wp-content/uploads/2010/05/EKP_tanulmany_Jaradekvadaszat-es-korrupcio.pdf)
- Estache, Antonio – Martimort, David 'Politics, Transaction Costs and the Design of Regulatory Institutions', 1999 no 2073 World Bank Policy Research Working Papers, available at: <http://elibrary.worldbank.org/docserver/download/2073.pdf?expires=1348>

078333&id=id&accname=guest&checksum=702C7045A1D1EAD60193A659E5E3083C accessed 18/09/2012,

Esty, Daniel C. - Geradin, Damien 'Regulatory co-operation' (2000) 3 Journal of International Economic Law, 235

EU Commission Recommendation 2000/417/EC on unbundled access to the local loop: enabling the competitive provision of a full range of electronic communications services including broadband multimedia and high-speed Internet

EU Commission Recommendation On Relevant Product and Service Markets within the electronic Communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC

EU Commission Staff Working Paper 'Interpretative note on Directive 2009/72/EC Concerning common rules for the internal market in electricity and Directive 2009/73/EC Concerning common rules for the internal market in natural gas – The unbundling regime' available at:  
[http://ec.europa.eu/energy/gas\\_electricity/interpretative\\_notes/doc/implementation\\_notes/2010\\_01\\_21\\_the\\_unbundling\\_regime.pdf](http://ec.europa.eu/energy/gas_electricity/interpretative_notes/doc/implementation_notes/2010_01_21_the_unbundling_regime.pdf) accessed: 15/06/2014

EU Commission, 'Future electronic communications markets subject to ex-ante regulation – Final Report' available at: <http://ec.europa.eu/digital-agenda/en/news/future-electronic-communications-markets-subject-ex-ante-regulation> accessed: 15/12/2013

EU Commission, 'Green Paper on the Liberalisation of Telecommunications Infrastructure and Cable Television Networks' COM (94) 440, 6

EU Commission, 'Eurobarometer 219 Consumers opinions on Services of General Interest.' 2005 available at:

[http://ec.europa.eu/public\\_opinion/archives/ebs/ebs\\_219\\_report\\_en.pdf](http://ec.europa.eu/public_opinion/archives/ebs/ebs_219_report_en.pdf)  
accessed: 20/05/2012

EU Commission, 'Eurobarometer 260, Consumers opinions on Services of General Interest.' 2007 available at:  
[http://ec.europa.eu/consumers/cons\\_int/serv\\_gen/cons\\_satisf/eb260\\_report\\_en.pdf](http://ec.europa.eu/consumers/cons_int/serv_gen/cons_satisf/eb260_report_en.pdf) accessed: 20/05/2012,

EU Commission, 'Eurobarometer 47.0: L'Europe des Consommateurs, Les Citoyens face a l'ouverture a la concurrence des monopoles de services public.' 1997 available at:  
[http://ec.europa.eu/public\\_opinion/archives/ebs/ebs\\_110\\_public\\_fr.pdf](http://ec.europa.eu/public_opinion/archives/ebs/ebs_110_public_fr.pdf)  
accessed: 20/05/2012,

EU Commission, 'Eurobarometer 53 : Les Européens et les services d'intérêt généraux.' 2000 available at:  
[http://ec.europa.eu/consumers/cons\\_int/serv\\_gen/cons\\_satisf/sur15\\_fr.pdf](http://ec.europa.eu/consumers/cons_int/serv_gen/cons_satisf/sur15_fr.pdf)  
f accessed: 20/05/2012

EU Commission, 'Eurobarometer 58: Consumers' opinions about Services of General Interest.' 2002 available at:  
[http://ec.europa.eu/public\\_opinion/archives/ebs/ebs\\_176\\_summ\\_en.pdf](http://ec.europa.eu/public_opinion/archives/ebs/ebs_176_summ_en.pdf)  
accessed 20/05/2012

EU Commission, 'Inquiry pursuant to Article 17 of Regulation (EC) No 1/2003 into the European gas and electricity sectors' (2006) 851 (Final Report)

EU Commission, 'Progress Report on the Single European Electronic Communications Market 2007 (13th Report)' COM(2008) 153 available at:  
[http://ec.europa.eu/information\\_society/policy/ecomms/doc/library/annual\\_reports/13th/SEC\(2008\)356DTSVol1final.pdf](http://ec.europa.eu/information_society/policy/ecomms/doc/library/annual_reports/13th/SEC(2008)356DTSVol1final.pdf) accessed: 12/07/2012

EU Council, 'Presidency Conclusions' (Corfu) available at:  
[http://www.consilium.europa.eu/uedocs/cms\\_data/docs/pressdata/en/ec/00150.EN4.htm](http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/00150.EN4.htm) accessed: 14/10/2013, l. 4.

EU Parliament, Cost of Non-Europe in the Single Market for Energy - ANNEX I - A cost estimation of existing gaps and barriers available at:  
[http://www.europarl.europa.eu/RegData/etudes/etudes/join/2013/504466/IPOL-JOIN\\_ET%282013%29504466%28ANN01%29\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/etudes/join/2013/504466/IPOL-JOIN_ET%282013%29504466%28ANN01%29_EN.pdf) accessed: 12/12/2013, p. 15.

European Central Bank, 'Price effects of regulatory reform in selected network industries'[ 2001],

European Central Bank, 'Price effects of regulatory reform in selected network industries'[ 2001] 5, Steiner (2001)

EUROSTAT, 'Electricity prices for households consumers 2013 – second semester'  
[http://epp.eurostat.ec.europa.eu/statistics\\_explained/index.php/File:Electricity\\_prices\\_for\\_households\\_consumers\\_2013s2.png#file](http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/File:Electricity_prices_for_households_consumers_2013s2.png#file), accessed 26/10/2014

Federal Network Agency, '2007 Report by the Federal Network Agency for Electricity, Gas, Telecommunications, Post and Railway to the European Commission on the German electricity and gas market" available at:  
[http://www.bundesnetzagentur.de/SharedDocs/Downloads/EN/BNetzA/PressSection/ReportsPublications/2007/MonitoringReport2007Id12648pdf.pdf?\\_\\_blob=publicationFile](http://www.bundesnetzagentur.de/SharedDocs/Downloads/EN/BNetzA/PressSection/ReportsPublications/2007/MonitoringReport2007Id12648pdf.pdf?__blob=publicationFile) accessed: 11/07/2012

Federal Network Agency, Annual reports, available at:  
[http://www.bundesnetzagentur.de/cln\\_1421/EN/General/Bundesnetzagentur/Publications/publications\\_node.html](http://www.bundesnetzagentur.de/cln_1421/EN/General/Bundesnetzagentur/Publications/publications_node.html) accessed: 15/06/2014

Ferrari, P. A. - Salini, S. 'Measuring Service Quality: The Opinion of Europeans about Utilities' (2008) 36 Nota Di Lavoro available at:

<http://www.feem.it/userfiles/attach/Publication/NDL2008/NDL2008-036.pdf> accessed 22/05/2012

- Fiorio, Carlo V. - Florio, Massimo 'Do you pay a fair price for electricity? Consumers' satisfaction and utility reform in the EU', (2008) 12 Department of Economics Working Paper, University of Milan,
- Garen, John E.'Executive Compensation and Principal-Agent Theory' 1994 (102) Journal of Political Economy, 1176
- Gehring, Thomas 'The consequences of delegation to independent agencies: Separation of powers, discursive governance and the regulation of telecommunications in Germany' (2004) 43 European Journal of Political Research, 681
- Geradin, Damien - O'Donoghue, Robert 'The concurrent application of competition law and regulation: the case of margin squeeze abuses in the telecommunications sector' (2005) 1 (2) Journal of Competition Law and Economics, 355
- Geradin, Damien 'Development of European regulatory agencies: what the EU should learn from American experience' (2005) 11 Columbia Journal of European Law,
- Geradin, Damien 'Institutional aspects of EU regulatory reforms in the telecommunications sector: an analysis of the role of national regulatory authorities' (2000) 1 Journal of Network Industries,
- Geradin, Damien 'Regulatory issues raised by network convergence: the case of multi-utilities' (2001) 2 Journal of Network Industries, 113
- Getachew, Lullit 'The market structure of the power transmission and distribution industry in the developed world' in Joanne Evans, Lester C. Hunt eds. International Handbook on the Economics of Energy (Edward Elgar Publishing 2009)

- Geveke, Arjan 'Improving Implementation by National Regulatory Authorities' 2003 (3) Eipascope available at: [http://aei.pitt.edu/2592/1/scop\\_3\\_3.pdf](http://aei.pitt.edu/2592/1/scop_3_3.pdf) accessed 24/08/2012
- Green, Richard 'The Electricity Contract Market in England and Wales' (1999) 47 The Journal of Industrial Economics, 107
- Groebel, Annegret (Bundesnetzagentur) 'Unbundling models in the EU and certification of TSOs in Germany' presentation available at: [http://www.ceer.eu/portal/page/portal/EER\\_HOME/EER\\_INTERNATIONAL/EU-US%20Roundtable/10supthsup%20EU-US%20Roundtable/10th%20EU-US\\_Session%20V\\_Groebel%20-%20unbundling.pdf](http://www.ceer.eu/portal/page/portal/EER_HOME/EER_INTERNATIONAL/EU-US%20Roundtable/10supthsup%20EU-US%20Roundtable/10th%20EU-US_Session%20V_Groebel%20-%20unbundling.pdf) accessed 15/06/2014,
- Growitsch, Christian – Wein, Thomas 'Negotiated Third Party Access—An Industrial Organisation Perspective' (2005) 20 European Journal of Law and Economics, 165
- Gupta, Anil K. - Lad, Lawrence J. 'Industry Self-Regulation: An Economic, Organizational, and Political Analysis' (1983) 8 (3) The Academy of Management Review, 416,
- Guthrie, Graeme 'Regulating Infrastructure: The Impact on Risk and Investment' (2006) 44 (4) Journal of Economic Literature, 925
- Hall, David - Lobina, Emanuele 'The relative efficiency of public and private sector water' (2005) PSIRU Discussion Paper,
- Hancher, Leigh - Larouche, Pierre - Lavrijssen, Saskia 'Principles of good market governance' (2003) 4(4) Journal of Network Industries, 355,
- Hattori , T. – Tsutsui, M. 'Economic Impact of Regulatory Reforms in the Electricity Supply Industry: A Panel Data Analysis for OECD Countries' in: Energy Policy, Vol.32, No. 6, 2004, p 823

- Haucap, Justus 'The Costs and Benefits of Ownership Unbundling' 2007 (Nov-Dec) *Intereconomics*, 303
- Hawdon, David - Hunt, Lester C. - Levine, Paul - Rickmany, Neil 'Optimal sliding scale regulation: an application to regional electricity distribution in England and Wales' (2007) *Oxford Economic Papers* 59,
- Henten, Anders - Samarajiva, Rohan - Melody, William 'Designing next generation telecom regulation: ICT convergence or multi-sector utility?' 2003 (5) *Info*, 32
- Hoceped, Christian - de Streel, Alexandre 'The ambiguities of the European electronic communications regulation' Published in E.J. Dommering and N.A.N.M. van Eijk (eds), *The Round Table Expert Group on Telecommunications Law*, University of Amsterdam, 2005,
- Horváth J. Ferenc, 'Piacnyitás a villamosenergia-iparban' available at: [http://www.beszelgetnikell.hu/index.cgi?r=&v=&l=&mf=&p=-letoltes\\_horvathjf\\_vandorgyules.doc](http://www.beszelgetnikell.hu/index.cgi?r=&v=&l=&mf=&p=-letoltes_horvathjf_vandorgyules.doc) accessed 20/08/2010
- House of Commons Committee of Public Accounts, 'Ofcom: the effectiveness of converged regulation' Twentieth Report of Session 2010-11, available at: <http://www.publications.parliament.uk/pa/cm201011/cmselect/cmpubacc/688/688.pdf> accessed: 10/04/2014
- House of Lords - Select Committee on the Constitution, 'The Regulatory State: Ensuring its Accountability' 6th Report of Session 2003-04, available at: <http://www.publications.parliament.uk/pa/ld200304/ldselect/ldconst/68/68.pdf> accessed 19/03/2014,
- Hultkrantz, Lars 'Telecommunications liberalisation in Sweden: Is "intermediate" regulation viable?' 2002 (9) *Swedish Economic Policy Review*, 135

Humphreys, Peter - Simpson, Seamus 'Globalization, the 'Competition' State and the Rise of the 'Regulatory' State in European Telecommunications' 2008 (46) JCMS, 862-863

Hungarian Energy Office, 'Annual report to the European Commission' (2009)

International Energy Agency, 'Energy Policies of IEA Countries – Germany 2007

Report' available at:

<http://www.iea.org/publications/freepublications/publication/germany2007.pdf> accessed 10/10/2014

IPSOS INRA, 'Consumer Satisfaction Survey - Final Report' (2007) available at:

[http://ec.europa.eu/consumers/cons\\_int/serv\\_gen/cons\\_satisf/consumer\\_service\\_finrep\\_en.pdf](http://ec.europa.eu/consumers/cons_int/serv_gen/cons_satisf/consumer_service_finrep_en.pdf) accessed: 22/05/2012

Jacobzone, Stéphane - Choi, Chang-Wong - Miguet, Claire 'Indicators of Regulatory Management Systems' OECD Working Papers on Public Governance 2007/4, available at <http://www.oecd.org/gov/regulatory-policy/39954493.pdf> accessed 08/03/2014,

Jamasb, Tooraj 'Between the state and market: Electricity sector reform in developing countries' 2006 (14) Utilities Policy, 23, also Jordana, Levi-Faur (2010) 345

Jamasb, Tooraj - Pollitt, Michael 'Electricity Market Reform in the European Union: Review of Progress toward Liberalization & Integration' (2005) 003 WP CEEPR 12

Jordana, Jacint - Levi-Faur, David 'Exploring Trends and Variations in Agency Scope' 2010 (11) Competition & Reg. Network Indus., 343

Joskow, Paul L. - Noll, Roger G. 'The Bell Doctrine: Applications in Telecommunications, Electricity, and Other Network Industries' (1999) 51 (5) Stanford Law Review, 1249, 1250

- Joskow, Paul L. 'Lessons Learned From Electricity Market Liberalization' [2008] The Energy Journal, Special Issue. The Future of Electricity: Papers in Honor of David Newbery. 20
- Kamino, Arata - Fuke, Hidenori 'Diffusion of Broadband Internet and Structural Separation' in Anastassios Gentzoglanis, Anders Henten edn. Regulation and the Evolution of the Global Telecommunications Industry (Edward Elgar Publishing, 2010) 226
- Kariyawasam, Rohan 'Defining dominance for bits & bytes: a new "layering theory" for interpreting significant market power?' 2005, 26(10) European Competition Law Review, 589
- Kemmitt, Helen - Angel, John 'The Telecommunications Regime in the United Kingdom' in Ian Walden ed. Telecommunications Law and Regulation (3rd edn. OUP 2009) 133
- Kerft, Michel - Geradin, Damien 'Controlling market power in telecommunications: antitrust vs. sectorspecific regulation - An Assessment of the United States, New Zealand and Australian Experiences" (1999) 14 (919) Berkeley Technology Law Journal, 919
- Kessides, Ioannis N. Reforming Infrastructure – Privatization, Regulation, and Competition (World Bank Policy Research Report, OUP 2004) p 99
- Kiessl, Thomas - Kuhlmann, Andreas - Schedl, Hans 'The Telecommunication Markets in Selected OECD Countries: Market Characteristics and Regulatory Institutions' 2006 (3) CESifo DICE Report available at: <http://www.ifo.de/portal/pls/portal/docs/1/1193300.PDF> accessed: 22/092012,
- Kim, Wangsik 'The Context of EU Telecommunications Reform Process: The Cases of Great Britain and Germany' (2008) 13 International Review of Public Administration 125

- Kirsch, Fabian - von Hirschhausen, Christian 'Regulation of NGN: Structural Separation, Access Regulation, or No Regulation at All?' (2008) 69 *Communications & Strategies* 63, 71
- Knieps, Gunter 'Regulatory reform of European telecommunications: past experience and forward-looking perspectives' (2001) 2 (3/4) *European Business Organization Law Review*,
- Koppányi Szabolcs et al 'Az ex ante piacszabályozás lehetőségei a magyar energetikai szabályozásban' Review ordered by the Hungarian Energy Office, Budapest, 2007, 61-62
- Koumpli, Vassiliki 'Competition Rules or Sector-Specific Regulation for the Liberalisation of the European Electricity Markets? With Reference to the English, Greek and German Third-Party Access Regimes' (2007) 25 *Journal of Energy & Natural Resources Law* 178,
- Kranz, Johann J. - Picot, Arnold 'Toward an End-to-End Smart Grid: Overcoming Bottlenecks to Facilitate Competition and Innovation in Smart Grids' 2011 National Regulatory Research Institute available at: [http://www.nrri.org/pubs/telecommunications/NRRI\\_End\\_to\\_End\\_Smart\\_Grid\\_june11-12.pdf](http://www.nrri.org/pubs/telecommunications/NRRI_End_to_End_Smart_Grid_june11-12.pdf) accessed: 01/04/2013, 1
- Kwoka, John E. 'The Effects of Divestiture, Privatization, and Competition on Productivity in US. And UK. Telecommunications' (1993) 8 *Review of Industrial Organization* 49, 51
- Labour Party, 'Communicating Britain's future' (1995), Richard Collins, Cristina Murrone, 'New Media New Policies' 1996 Institute for Public Policy Research,
- Laffont, Jean-Jacques - Tirole, Jean A *Theory of Incentives in Procurement and Regulation* (MIT Press, 1993) 475

- Lapuerta, Carlos - Moselle, Boaz 'Network Industries, Third Party Access and Competition Law in the European Union' 1999 (19) *Northwestern Journal of International Law & Business*,
- Larouche, Pierre - Hanretty, Chris - Reindl, Andreas 'Independence, accountability and perceived quality of regulators' CERRE Study, 2012 available at: [http://www.cerap.be/IMG/pdf/report\\_container.pdf](http://www.cerap.be/IMG/pdf/report_container.pdf) accessed 10/04/2014
- Larouche, Pierre 'A closer look at some assumptions underlying EC regulation of electronic communications' (2002) 3 *Journal of Network Industries*, 129
- Larouche, Pierre 'Coordination of European and Member State regulatory policy. Horizontal, vertical and transversal aspects' (2004) 5 (3-4) *Journal of Network Industries*, 277,
- Larouche, Pierre 'Relevant market definition in network industries: air transport and telecommunications' (2000) 1 *Journal of Network Industries*, 407,
- Larsen, E. R. - Bunn, D. W. 'Deregulation in electricity: understanding strategic and regulatory risk' (1999) 50 *Journal of the Operational Research Society* 340,
- Levy, Brian - Spiller, Pablo T. 'The Institutional Foundations of Regulatory Commitment: A Comparative Analysis of Telecommunications Regulation' (1994) 10 (2) *Journal of Law, Economics, & Organization*, 201
- Littlechild, S. C. 'Regulation of British Telecommunications' Profitability' (HMSO, London, 1983)
- Littlechild, Stephen 'Smaller Suppliers in the UK Domestic Electricity Market: Experience, Concerns and Policy Recommendations' (University of Cambridge Electricity Policy Research Group working paper 2008) available at: <http://www.eprg.group.cam.ac.uk/wp-content/uploads/2008/11/littlechildsuppliers.pdf> accessed 26/08/2010 6

- Littlechild, Stephen 'The Nature of Competition and the Regulatory Process' 2011  
(1) Intereconomics
- Livingstone, Sonia - Lunt, Peter - Miller, Laura 'Citizens and consumers: discursive debates during and after the Communications Act 2003' 2007 (29) Media Culture Society, 614
- Lloyd, Ian - Mellor, David Telecommunications Law (Butterworths, 2003)
- Lodge, Martin 'Varieties of Europeanisation and the National Regulatory State' 2002 (17) Public Policy and Administration 56
- Mahoney, Joseph T. 'The choice of organizational form: vertical financial ownership versus other methods of vertical integration' 1992 13:8 Strategic Management Journal, 568
- Martha M. Roggenkamp, Catherine Redgwell, Inigo Del Guayo, Anita Ronne (eds.) Energy Law in Europe – National, EU, and International Regulation (2nd edn, OUP 2007) 1178-1179
- Matthes, Dr. Felix Chr. - Grashof, Katherina - Gores, Sabine 'Power Generation Market Concentration in Europe 1996-2005 - An Empirical Analysis' (2007) available at: [www.oeko.de/oekodoc/308/2007-002-en.pdf](http://www.oeko.de/oekodoc/308/2007-002-en.pdf) accessed 12/08/2014
- Meade, Richard 'Electricity Investment and Security of Supply in Liberalized Electricity Systems' Available at: <http://ssrn.com/abstract=831585> accessed 25/08/2010 25, CF Ofgem, 'Mergers in the electricity distribution sector Policy statement' (2002) Executive summary 2
- Memorandum by OFGEM, Select Committee on Constitution Minutes of Evidence, available at: <http://www.publications.parliament.uk/pa/ld200304/ldselect/ldconst/68/3052109.htm> accessed 10/04/2014, para 24-28.

- Mitchell, Rachel A. 'The Electricity Directive of the European Union: What Can the Member States Learn from the Experiences of Privatised England and Wales' (1998-1999) 14 Am. U. Int'l L. 790
- Moe, Terry M. 'An Assessment of the Positive Theory of 'Congressional Dominance' 1987 (12) Legislative Studies Quarterly, 482
- Motta, Massimo 'Competition policy: theory and practice' (CUP 2004) 308
- Mulder, Machiel - Shestalova, Victoria - Zwart, Gijsbert 'Vertical Separation of the Dutch Energy Distribution Industry: an Economic Assessment of the Political Debate' 2007 (Nov-Dec) Intereconomics, 308
- Nagy Csongor István, 'A jelentős piaci erő jogintézménye a villamosenergia-piac szabályozásában – jogalkotói önellentmondás' in Verseny és Szabályozás 2008, available at: [http://econ.core.hu/file/download/vesz08/07\\_piaciero.pdf](http://econ.core.hu/file/download/vesz08/07_piaciero.pdf) accessed: 02/03/2013, 150
- Netherlands Competition Authority's press release: 'Green light for the Netherlands Authority for Consumers and Markets' available at [http://www.nma.nl/en/documents\\_and\\_publications/press\\_releases/news/2013/05\\_13\\_green\\_light\\_for\\_the\\_netherlands\\_authority\\_for\\_consumers\\_and\\_markets.aspx](http://www.nma.nl/en/documents_and_publications/press_releases/news/2013/05_13_green_light_for_the_netherlands_authority_for_consumers_and_markets.aspx) accessed: 28/02/2013
- Newbery, David 'Electricity liberalisation in Britain: the quest for a satisfactory wholesale market design' available at: [http://www.sessa.eu.com/documents/wp/D13.2\\_Newbery.pdf](http://www.sessa.eu.com/documents/wp/D13.2_Newbery.pdf) accessed 26/01/2012 2, 9
- Newbery, David 'The relationship between regulation and competition policy for network utilities' 2006 Cambridge Working Papers in Economics, 23

Newton, Paul 'The evolving role of Ofgem' (2010) Utility Week, available at:  
[http://www.utilityweek.co.uk/news/news\\_story.asp?id=170841&title=The+evolving+role+of+Ofgem](http://www.utilityweek.co.uk/news/news_story.asp?id=170841&title=The+evolving+role+of+Ofgem) accessed: 20/09/2012

Nicoletti, P. C. G. 'Product Market Regulation in the Non-Manufacturing Sectors of OECD Countries: Measurement and Highlights' (2006) OECD Economics Department Working Papers No. 530.

O'Brien, Kevin J. 'German Parliament approves rules banning rivals from Deutsche Telekom's new network - Business - International Herald Tribune' (2006) The New York Times available at:  
<http://www.nytimes.com/2006/12/15/business/worldbusiness/15iht-telekom.3917659.html> accessed 24/11/2011

OECD Working Party on Telecommunication and Information Services Policies, 'The Benefits and Costs of Structural Separation of the Local Loop' [2003] 26

OECD, 'Review of Regulatory Reform in Germany, Regulatory Reform in Telecommunications' (2004) OECD Reviews of Regulatory Reform

OECD. 'Report on Experiences with Structural Separation' 2011 available at:  
<http://www.oecd.org/daf/competition/50056685.pdf> accessed: 02/10/2012, 20

Ofcom, 'Final statements on the Strategic Review of Telecommunications, and undertakings in lieu of a reference under the Enterprise Act 2002' Available at:  
<http://stakeholders.ofcom.org.uk/binaries/consultations/752417/statement/statement.pdf> accessed 2011/09/27

Ofcom, 'Impact of the Strategic Review of Telecoms' available at:  
[http://stakeholders.ofcom.org.uk/binaries/telecoms/policy/bt/impact\\_srt\\_fullldoc.pdf](http://stakeholders.ofcom.org.uk/binaries/telecoms/policy/bt/impact_srt_fullldoc.pdf) accessed 10/08/2014

Ofcom, 'Review of the Retail Leased Lines, Symmetric Broadband Origination and Wholesale Trunk Segments Markets—Final Statement and Notification-- Identification and Analysis of Markets, Determination of Market Power and Setting of SMP Conditions, 24 June 2004' (the "Leased Lines Market Review") available at: [stakeholders.ofcom.org.uk/binaries/consultations/llmr/statement/state\\_note.pdf](http://stakeholders.ofcom.org.uk/binaries/consultations/llmr/statement/state_note.pdf) accessed 14/12/2013

Ofcom, 'What is Local Loop Unbundling?' available at: <http://ask.ofcom.org.uk/help/telephone/LLU> accessed 15/06/2014

Ofcom, 'A case study on public sector mergers and regulatory structures' (2006) available at: [http://www.ofcom.org.uk/files/2010/07/public\\_sector\\_merger\\_case\\_study.pdf](http://www.ofcom.org.uk/files/2010/07/public_sector_merger_case_study.pdf) accessed: 10/04/2014,

Ofcom, 'BT and Sky had the highest growth in broadband market share in 2012' available at: [stakeholders.ofcom.org.uk/market-data-research/market-data/communications-market-reports/cmr13/uk/UK-5.34](http://stakeholders.ofcom.org.uk/market-data-research/market-data/communications-market-reports/cmr13/uk/UK-5.34) accessed at: 15/06/2014,

Ofcom, 'Citizens, Communications and Convergence - A summary of stakeholder responses, and our next steps' 2010 available at: [http://stakeholders.ofcom.org.uk/binaries/consultations/citizens/statement/Citizen\\_Statement.pdf](http://stakeholders.ofcom.org.uk/binaries/consultations/citizens/statement/Citizen_Statement.pdf) accessed: 10/01/2013, 1

Ofcom, 'Impact of the Telecoms Strategic Review Evaluation' available at: [stakeholders.ofcom.org.uk/binaries/telecoms/policy/bt/tsr\\_statement.pdf](http://stakeholders.ofcom.org.uk/binaries/telecoms/policy/bt/tsr_statement.pdf) accessed at: 15/06/2014,

Ofcom, 'OFCOM response to European Commission consultation on the independence of audiovisual regulatory bodies' available at: <file:///C:/Users/47/Documents/OFCOM.pdf> accessed: 10/04/2014,

Ofgem, 'Mergers in the electricity distribution sector Policy statement' (2002)  
Executive summary 5, 10-11, 19

Ofgem, 'Energy Supply Probe - Initial Findings Report' 140/08 available at:  
<http://www.ofgem.gov.uk/Markets/RetMkts/ensuppro/Documents1/Energy%20Supply%20Probe%20-%20Initial%20Findings%20Report.pdf> accessed:  
13/07/2012

Ofgem, 'Ofgem refers the energy market for a full competition investigation'  
available at: <https://www.ofgem.gov.uk/press-releases/ofgem-refers-energy-market-full-competition-investigation> accessed: 26/10/2014,

Ofgem, 'Securing Britain's electricity supply' available at:  
[http://news.bbc.co.uk/nol/shared/bsp/hi/pdfs/03\\_03\\_04securityofsupply\\_Dec.pdf](http://news.bbc.co.uk/nol/shared/bsp/hi/pdfs/03_03_04securityofsupply_Dec.pdf) 1 accessed 30/01/2012 1

OFT, 'Concurrency Working Party' available at: <http://www.ofcom.gov.uk/about-the-ofcom/legal-powers/legal/competition-act-1998/Concurrency/#named3>  
accessed 13/09/2012

Oftel, 'Promoting Competition in Services over Telecommunications Networks'  
(Consultation) 1999 available at:  
<http://www.ofcom.org.uk/static/archive/oftel/publications/1999/competition/promote/chapt4.htm> accessed 19/01/2012

Olsen, Ole Jess - Henten, Anders - Falch, Morten 'Functional separation in  
telecommunications: A comparative analysis of infrastructural areas' (2008)  
Conference paper 17th Biennial ITS Conference 2-3

Parker, David 'Regulation of privatised public utilities in the UK: performance and  
governance' (1999) 12 International Journal of Public Sector Management  
213, 213

- Peltzman, Sam – Levine, Michael E. - Noll, Roger G. 'The Economic Theory of Regulation after a Decade of Deregulation' (1989) Brookings Papers on Economic Activity. Microeconomics
- Peltzman, Sam 'Toward a More General Theory of Regulation' 1976 (19) Published: Journal of Law and Economics 211
- Pesic, R. - Üрге-Vorsatz, D. 'Restructuring of the Hungarian Electricity Industry ' (2001) 13(1) Journal of Post-Communist Economies
- Philp, Mark 'Delimiting democratic accountability' (2009) 57(1) Political Studies, 29
- Pint, Ellen M.'Price-cap versus rate-of-return regulation in a stochastic-cost model' (1992) 23 RAND Journal of Economics,
- Pond, Richard 'Liberalisation, privatisation and regulation in the UK electricity sector' Working Lives Research Institute, LMU- Country report on liberalisation and privatisation processes and forms of regulation (2006) 1
- Posner, Richard A. 'The Social Costs of Monopoly and Regulation' (1975) 83 (4) The Journal of Political Economy, 807
- Prosser, Tony The regulatory enterprise: government, regulation, and legitimacy (OUP 2010)
- Rato, Miguel - Petit, Nicolas 'Abuse of Dominance in Technology-Enabled Markets: Established Standards Reconsidered?' (2013) 9 (1)European Competition Journal, 1, 9
- Reding, Viviane 'Europe's telecommunications market ahead of the reform of the EU's regulatory framework' 13. Internationale Handelsblatt Jahrestagung "Telekommarkt Europa" Düsseldorf, 12 June 2007

- Roggenkamp, Martha M. - Redgwell, Catherine - Del Guayo, Inigo - Ronne Anita  
(eds), 'Energy Law in Europe national, EU, and international regulation' (2nd  
edn. Oxford University Press, 2007)
- Sas, Blanche 'Regulation and the Privatised Electricity Supply Industry' (1990) 53  
The Modern Law Review 485,
- Schwarz, Tim – Satola, David 'Telecommunications Legislation in Transitional and  
Developing Economies' (2000) World Bank Technical Paper NO. 489,
- Scott, Colin 'Accountability in the Regulatory State' (2000) 27 (1) Journal of Law and  
Society, Voices, Spaces, and Processes in Constitutionalism, 38
- Sharpe, Andrew 'Communications Technologies, Services, and Markets' in Ian  
Walden ed. Telecommunications Law and Regulation (3rd edn. OUP 2009)  
38-43
- Shepherd, William G. 'Dim prospects: effective competition in telecommunications,  
railroads and electricity' 1997 (42) The Antitrust Bulletin, 163
- Shleifer, Andrei 'A theory of yardstick competition' (1985) 16 Rand Journal of  
Economics
- Simmonds, Gillian 'Regulation of the UK Electricity Industry' (2002) CRI Industry  
Brief, 15
- Smith, Warrick 'Utility Regulators-Roles and Responsibilities' 1997 Note no. 128  
Viewpoint, 1
- Steiner, Faye 'Regulation, Industry Structure and Performance in the Electricity  
Supply Industry' OECD Economic Studies No. 32, 2001/I
- Stigler, George J. 'The Theory of Economic Regulation' 1971 (2) The Bell Journal of  
Economics and Management Science, 3

Tarrant, Andrew 'Significant market power in the regulation of telecommunications markets' 2000, 21(7) European Competition Law Review, 323

Teligen, 'Report on Telecoms Price Developments from 1998 to 2009 - Produced for: European Commission Directorate General for Information Society' available at: [http://ec.europa.eu/information\\_society/digital-agenda/scoreboard/docs/pillar/studies/voice\\_tariff\\_1998\\_2010.pdf](http://ec.europa.eu/information_society/digital-agenda/scoreboard/docs/pillar/studies/voice_tariff_1998_2010.pdf) accessed: 14/07/2012

The Guardian, 'UK energy bill crisis looms as consumers pay more despite using less' available at: <http://www.theguardian.com/business/2014/oct/17/britain-energy-bill-crisis-gas-electricity> accessed: 22/10/2014

The Telegraph, 'Millions to see energy bills fall after David Cameron promises tariff reform' available at: <http://www.telegraph.co.uk/finance/personalfinance/consumertips/household-bills/9616124/Millions-to-see-energy-bills-fall-after-David-Cameron-promises-tariff-reform.html> accessed: 22/04/2013,

Thomas, Steve 'The British Model in Britain: Failing slowly' (2004) International Workshop on: "Thirty Years of World Energy Policy – cum – Editorial Board Meeting of Energy Policy" Hong Kong Baptist University, 10-11

Thomas, Steve 'Unbundling of electricity transmission networks: Analysis of the European Commission's position' [2007] PRISU 4

Tomain, Joseph P. 'The Past and the Future of Electricity Regulation' (2002) 32 Environmental Law 438,

Trillas, F. "Electricity and Telecommunication Reforms in the EU: Insights from the Economics of Federalism." (2010) IESE Working Paper WP-861.

- Tropina, Tatiana - Whalley, Jason - Curwen, Peter 'Functional separation within the European Union: Debates and challenges' (2010) 27 *Telematics and Informatics* 231, 237
- Ugur, Mehmet 'Regulatory Quality and Performance in EU Network Industries: Evidence on Telecommunications, Gas and Electricity' 2009 (29) *Journal of Public Policy* 350
- Veljanovski, Cento G. 'Market definitions in telecommunications - the confusing proliferation of competitive standards' 1999, 5(2) *Computer and Telecommunications Law Review*,
- Vogelsang, Ingo 'The German Telecommunications Reform – Where did it come from, Where is it, and Where is it Going?' (2003) 4(3) *Perspektiven der Wirtschaftspolitik* 317
- von Danwitz, Thomas 'Regulation and Liberalization of the European Electricity Market – a German view' (2006) 27 *Energy Law Journal* 423, 423, Geradin, O'Donoghue (2005) 360
- Waddams, Catherine - Harker, Michael 'Introducing competition and deregulating the British domestic energy markets: a legal and economic discussion' 2007 *Journal of Business Law*, 269
- Waddams, Catherine 'The Effect of Liberalizing UK Retail Energy Markets on Consumers' 2005 (21) *Oxford Review of Economic Policy*,
- Walden, Ian - Angel, John *Telecommunications Law* (Blackstone, 2001)
- Walden, Ian 'Access and Interconnection' in Ian Walden ed. *Telecommunications Law and Regulation* (3rd edn. OUP 2009) 400
- Walden, Ian 'European Union Communications Law' in Ian Walden ed. *Telecommunications Law and Regulation* (3rd edn. OUP 2009) 188

- Walden, Ian 'European Union Communications Law' in Ian Walden ed.  
Telecommunications Law and Regulation (3rd edn. OUP 2009)185
- Waterman, Richard W. 'Principal Agent Models: An Expansion' 1998 (2) Journal of  
Public Administration Research and Theory,
- Watson, Chris '2007 review of the 2002 European telecommunications directives'  
2007, 13(4) Computer and Telecommunications Law Review, 130
- Weigt, Hannes – Neumann, Anne - von Hirschhausen, Christian 'Divestitures in the  
Electricity Sector: Conceptual Issues and Lessons from International  
Experiences' 2009 (22) The Electricity Journal, 61
- Whalley, Jason - Curwen, Peter 'Is Functional Separation BT-Style the Answer?'  
(2008) 71 Communications & Strategies, 145, 148
- Whish, Richard *Competition Law* (6th edn OUP, London 2009)
- Woo, Chi-Keung - Lloyd, Debra - Tishler, Asher 'Electricity market reform failures:  
UK, Norway, Alberta and California' (2003) 31 Energy Policy 1105
- Working Group Report on Transparency in EU Retail Energy Markets Report  
prepared for the 5<sup>th</sup> Citizens' Energy Forum – November 2012 available at:  
accessed: 16/12/2013,
- WS Atkins Management Consultants, 'External Efficiency Review of Utility  
Regulators – Final report' 2001, available at:  
[http://archive.treasury.gov.uk/pdf/2001/regulators\\_1902.pdf](http://archive.treasury.gov.uk/pdf/2001/regulators_1902.pdf) accessed:  
19/02/2013, vi.
- WTO Department of Trade & Industry, 'Communications Liberalisation in the UK'  
available at:  
[http://www.wto.org/english/tratop\\_e/serv\\_e/symp\\_mar02\\_uk\\_com\\_e.pdf](http://www.wto.org/english/tratop_e/serv_e/symp_mar02_uk_com_e.pdf)  
accessed: 30/04/2013,

Xavier, Patrick - Ypsilanti, Dimitri 'Is the case for structural separation of the local loop persuasive?' (2004) 6 (2) info, 74, 92

Zachmann, Georg 'A Markov Switching Model of the Merit Order to Compare British and German Price Formation' 2007 DIW Berlin Discussion Papers, available at:  
[http://www.diw.de/documents/publikationen/73/diw\\_01.c.61917.de/dp714.pdf](http://www.diw.de/documents/publikationen/73/diw_01.c.61917.de/dp714.pdf) accessed: 25/04/2013

### **Table of cases & legislation**

2003/707/EC: Commission Decision of 21 May 2003 relating to a proceeding under Article 82 of the EC Treaty (Case COMP/C-1/37.451, 37.578, 37.579 — Deutsche Telekom AG)

2007. évi LXXXVI. Törvény a villamos energiáról (VET)

Commercial Solvents v. Commission [1974] ECR 223, [1974] 1 CMLR

Commission Decision 1994/19 relating to a proceeding pursuant to Art. 86 of the EC Treaty (IV/34.689-Sea Containers v Stena Sealink) (interim measures) [1994] OJ L15/8.

Communications Act 2003

Council Directive 90/387 on the establishment of the internal market for telecommunications services through the implementation of open network provision

Deutsche Telekom AG v Commission [2008] E.C.R. II-477; [2008] 5 C.M.L.R. 9.

Deutsche Telekom AG v European Commission (C-280/08 P) [2010] 5 C.M.L.R. 27.

Deutsche Telekom AG v European Commission (C-280/08 P) [2010] 5 C.M.L.R. 27.

Directive 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities (Access Directive)

Directive 2002/20/EC on the authorisation of electronic communications networks and services (Authorisation Directive)

Directive 2002/21/EC on a common regulatory framework for electronic communications networks and services (Framework Directive)

Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks and services (Universal Service Directive)

Directive 2002/58/EC concerning the processing of personal data and the protection of privacy in the electronic communications sector (Directive on privacy and electronic communications)

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 88/301/EEC on competition in the markets in telecommunications terminal equipment

Directive 97/33/EC on interconnection in Telecommunications with regard to ensuring universal service and interoperability through application of the principles of Open Network Provision (ONP)

Directive 97/33/EC on interconnection in Telecommunications with regard to ensuring universal service and interoperability through application of the principles of Open Network Provision (ONP) Article 4. 2

Directive 97/51/EC

Directive 97/51/EC of the European Parliament and of the Council of 6 October 1997 amending Council Directives 90/387/EEC and 92/44/EEC for the purpose of adaptation to a competitive environment in telecommunications

Electricity Act 1989

Energy Act of 2005 (Energiewirtschaftsgesetz)

Energy Act of 2010

Enterprise and Regulatory Reform Act 2013

European Commission v Germany [2009] case C-424/07, OJ C283/19

Hungarian Energy Office, Decision 114/2009

Hungarian Energy Office, Decision 727/2008

Hungarian Energy Office, Decision 739/2008

Hungarian Energy Office, Decision 747/2011

National Carbonising Company Decision 76/185 [1976] OJ L 35/6

Oscar Bronner GmbH&Co KG v Mediaprint Zeitungs- und Zeitschriftenverlag GmbH & Co KG [1998] E.C.R. I-7791

Regulation 2887/2000 on unbundled access to the local loop

Utilities Act 2000