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ACRONYM OF THE PROJECT: REGUNET

TITLE: MULTILEVEL REGULATION OF UTILITY SECTORS : ENERGY AND TELECOM IN BELGIUM

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[1] See art. 5.5.2 of the contract

1. INTRODUCTION

Regulation is the “public administrative policing of a private activity with respect to a rule prescribed in the public interest” (Mitnick, 1980: 30), and encompasses a wide range of activities. Moreover, economic regulation has become multiactor, multilevel and multisector. This can have a number of negative consequences. In this regard, the REGUNET project analyzed the effectiveness and coherence of multilevel regulation of utility sectors. The analytical framework can be found in figure 1.
First, a theoretical and methodological framework was elaborated, with an enumeration of research questions and an explanation on the concepts used in the report. Then the energy sector and telecom sector in Belgium were discussed thoroughly. The focus was on the capacity of the sector regulator, the regulatory arrangement, regulative coherence on four axes, and strategic behavior in four case studies. This analysis was repeated for the telecom sectors in the Netherlands, Ireland and Switzerland, with the exception of the study of strategic behavior. International partners were involved to provide assistance for the analysis and the report concludes with a comparative look at each case.

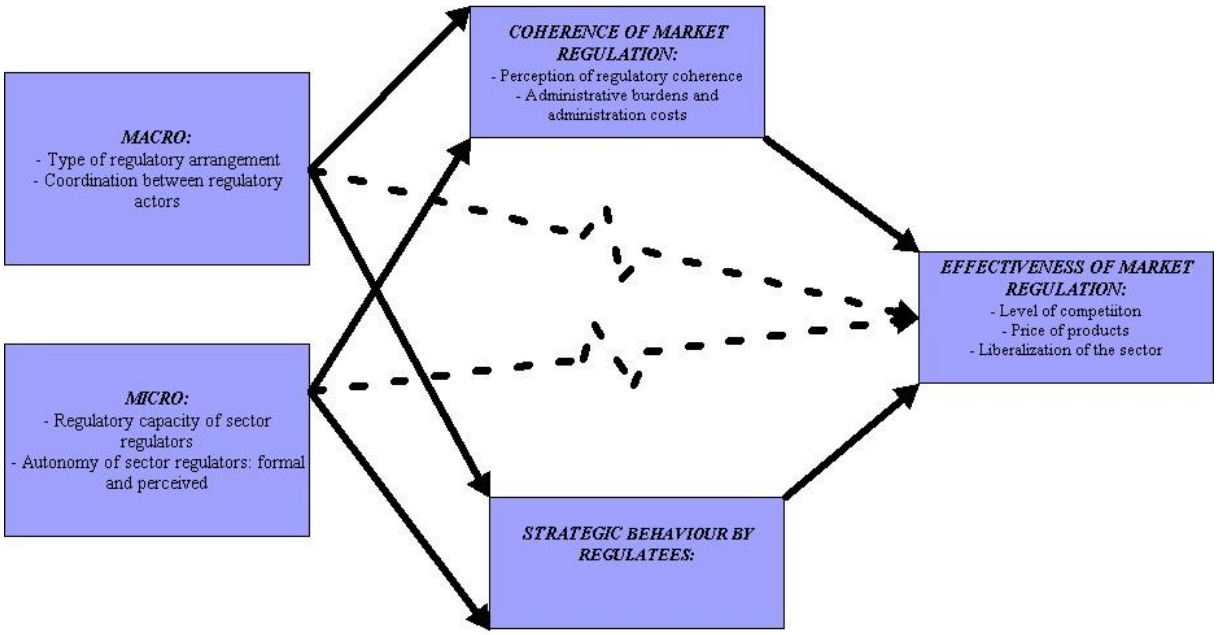

Figure 1: Analytical framework REGUNET project

2. RESEARCH QUESTIONS

During the course of the project, three research questions were posed. Each question can be subdivided further.

RQ1. How is the regulation of utility companies organized?
- SRQ 1.1. What is the history of regulation of utility companies?
- SRQ 1.2. What are the relevant regulatory actors within the sector?
- SRQ 1.3. What is the regulatory capacity of the sector regulator?
- SRQ 1.4. In what regard are activities between regulatory actors coordinated, both horizontally and between governmental levels?

RQ2. What are the characteristics of the sector?
- SRQ 2.1. How has market effectiveness of the sector evolved?

SRQ 2.2. Is there regulatory incoherence (i.e. a lack of coherence in multilevel regulation) within the sector?

SRQ 2.3. Is there evidence of strategic behavior by the regulatees?

RQ3. Are there connections to be made between the independent, intermediate and dependent variables?

SRQ 3.1. What is the relationship between capacity of the sector regulator and regulatory coherence?

SRQ 3.2. What is the relation between the type of regulatory arrangement and regulatory coherence?

SRQ 3.3. What is the relationship between the capacity of a sector regulator and strategic behavior by regulatees?

SRQ 3.4. What is the relationship between the type of regulatory arrangement and strategic behavior by regulatees?

SRQ 3.5. What is the relationship between regulatory coherence and market effectiveness?

SRQ. 3.6. What is the relationship between strategic behavior by regulatees and market effectiveness?

3. THEORETICAL FRAMEWORK

3.1. Choice for the energy and telecom sector

All policy areas are in some respect subject to regulation, so a choice had to be made regarding which areas would be the subject of the REGUNET project. A first delineation was made to economic policy domains, not in the least because liberalization in these domains were steered by the European level, giving them a multilevel dimension. Furthermore, the European level also mandated the delegatation of policy implementation to independent regulatory agencies, creating a multiactor dimension as well (Coen & Thatcher, 2000; Eberlein, 2000; Gilardi, 2002). A second delineation narrowed the project to utility sectors. This choice was primarily made because utility sectors provide essential services, making them extremely important (Scott, 2000). In addition, it is mostly in utility sectors that the recent wave of liberalization and privatization occurred: traditionally these were network sectors where monopolistic companies provided goods and services (Coen & Héritier, 2005; Coen, 2008).

3.2. Concepts

The report has been built around a number of key concepts: regulation, effectiveness, coordination, coherence, and strategic behavior.

Regulation is the “public administrative policing of a private activity with respect to a rule prescribed in the public interest” (Mitnick, 1980: 30). In the REGUNET project regulation was divided into four distinct tasks: (1) setting standards and norms; (2) applying these norms to individual cases; (3) monitoring and inspecting rules and decisions; and (4) enforcing rules and decisions (Hood et al., 2001). In economic sectors these tasks are often performed by an independent regulatory agency or ‘sector regulator’, or simply ‘regulator’. In a complex world however, sectors are no longer regulated by one actor, but specialization occurs on four axes: horizontally (same organizational and hierarchical level), vertical (other organizational level), intersectoral (public organizations active within regulation of one sector can get a say in regulation of another sector, for example due to technological conversion), and general/sector specific (the sector regulator versus the anti-trust agency). This set of ‘regulatory actors’ is also referred to as the ‘regulatory arrangement’ or ‘regulatory constellation’ (Jordana & Sancho, 2004).

The concept ‘market effectiveness’ differs from market efficiency. It has a broader meaning, and also takes into account the needs of the customers in a market, and the need to maintain a market.

Coordination is defined in the report as any interaction between actors with the aim to take into account each other's decisions (Hall et al., 1976). These interactions can occur on the four axes described before: vertical, horizontal, intersectoral, and general/sector specific.
Regulatory coherence delineates a situation where regulatees perceive themselves to be regulated by a transparent and consistent set of rules. It is therefore a subjective concept. Objective measurements are possible, but are limited to measuring regulatory burdens (Nijsen, 2004; SCM Network, 2005) and regulation costs. The REGUNET project itself concentrated on finding a typology for coherence problems.
Strategic behavior is behavior that is meant to safeguard the goals of one actor, even if these goals are counter to the interests of all the other actors. This definition was adapted from Ten Heuvelhof et al. (2009: 3). Compared to Ten Heuvelhof et al. (2009) however, the REGUNET project used both a broader and more restricted focus. The focus is broader because strategic behavior doesn't necessarily run counter to the public interest. At the same time the focus is more restrictive because we only take into account the use of rules, and how decisions of public actors are influenced.

3.3. Methods used during the project

During the REGUNET project case studies were used, a social network analysis was made to study coordination in the regulatory arrangement, and, when analyzing strategic behavior, the method of process tracing was used.
In general case studies are used during a research project when the research questions try and explain phenomena, when the variables are very complex, and when there is a need to contextualize causality (Yin, 2003). The REGUNET project made use of case studies on two levels. On the first level, the telecom sector and energy sector in Belgium can be seen as two case studies comparing sectors, while the analysis of the the telecom sector can be seen as a comparative case study in four countries. On the second level, four case studies were made concerning strategic behavior, two in the energy sector and two in the telecom sector, all in Belgium.
During the analysis of the regulatory arrangement, a social network analysis was made in some countries. This is a method to measure strength in a relational configuration, where it is assumed that persons and organizations interact with each other in a network setting (Kenis & Schneider 1991: 44). Within the REGUNET project the indices 'reputation' (Ingold et al., 2010), 'out degree centrality' for influence and information, and 'betweenness centrality' of contacts (Freeman, 1979) are used. The concept of 'cliques' is also applied (Wassermann & Faust, 1994).
The method of process tracing was used with the case studies on strategic behavior. This is an inductive method meant to identify causal processes between the independent and dependent variable (George & Bennett, 2005: 206).

4. METHODOLOGY

4.1. Analytical framework and selection of cases

The analytical framework was already identified in figure 1, and consists of independent, intermediate, and dependent variables. The independent variable on the macro level consists of the regulatory arrangement of a certain sector. At the micro level the capacity and autonomy of a sector regulator were studied. Regulatory coherence and strategic behavior are intermediate variables and we expect them to be influenced by the independent variables at both the macro and micro levels. At the same time, we expect the intermediate variables to influence market effectiveness, the dependent variable. In general, deductive and qualitative analyses were used, though when studying strategic behavior an inductive approach was taken.
A comparative analysis was made between the Belgian energy sector and telecom sector, after which an analysis was made of the telecom sector in three other European countries:

the Netherlands, Ireland and Switzerland. This allowed the researchers to look both between sectors and between countries. The choice for the different countries was influenced by two main motives: size and state structure.

4.2. Methodology for each research question

To answer the first research question, primary and secondary sources were consulted. The primary sources consisted of legal texts, while the secondary sources were annual reports, general reports, academic texts, and the media. In a second step relevant actors were identified, first by again looking at the legal texts, but also by conducting semi-structured interviews with the sector regulators. Furthermore, at least one expert per case was consulted to review the data obtained. Finally, a question list was sent to a number of key actors. This way, a timeline was constructed of the liberalization process, a mapping was made of the regulatory arrangement, the independence of the sector regulator was analyzed[2], and the type of regulatory arrangement was identified[3].

To answer the second research question, quantitative material was gathered through the Eurostat database, the OECDStat database, and, specifically for telecom, the EUKLEMS database. In the next step an online media analysis was performed. After gathering the initial data, experts were consulted. These experts were either academics, high level civil servants, or journalists. After having interviewed the experts, the regulatees were invited for semi-structured interviews. Finally, the inductive method of process tracing was used to delve deeper into the four case studies. Within the energy sector, the choice was made for the conflict between Infrax, Eandis and CREG on infrastructure depreciations, and the conflict between Publigas and GDF Suez concerning the LNG Terminal in Zeebrugge. Within the telecom sector, a case on mobile termination rates and one on opening the broadband market were discussed. This way, market effectiveness could be described, as well as regulatory coherence and strategic behavior.

The last research question tied the other elements together, and was answered by making connections in a qualitative way.

5. FINDINGS

5.1. Observations

Some important conclusions can be made when comparing the energy sector and telecom sector in Belgium. The telecom sector was liberalized before the energy sector, and on both occasions the initiative came from the European level. Both sectors also opted to create an independent regulator. This reflects the country analysis in the telecom sector, where the same observations could be made, including the European initiative. This is even true for Switzerland, where a process of autonomous adaptation occurred. Another observation that was made was that in all countries a convergence between the telecom and media sectors was occurring. Finally, the data in all five cases shows a gradual but constant shift towards more competition in the sectors.

Concerning the characteristics of the regulators, the judicial status of the energy and telecom regulators in Belgium are similar, but the structure differs. The comparison with the other telecom regulators shows a similar judicial status, but differences in both structure and size of the organizations. The involvement in regulatory tasks of each of the regulators is different, but all of them are involved in all four regulatory tasks. A general conclusion that can be postulated from the analysis of the capacity of the sector regulators is that there is primarily a variance on the size of the different regulators, and their age.

[2] Formal independence was analyzed making use of the Gilardi index (Gilardi, 2008). The perception of de facto autonomy was obtained through the COBRA-survey (Verhoest, 2010)

[3] The type of regulatory arrangement was ascertained by developing new indices, based on the formal decision making procedures in each country and every sector. For Belgium and Switzerland a social netwerk analysis was made as well.

The results of the analysis of formal independence show that no regulator studied during the project had a low score, but the Belgian regulators did have lower scores compared to the others. The Dutch and Irish telecom regulators have the highest scores, partially because of the very high policy autonomy they have. Both between countries and between sectors a variance can be observed in formal independence. The perception of de facto autonomy completes the picture of the formal independence. As a general conclusion it can be stated that the perception of autonomy is high for all observed regulators.
Concerning regulatory coordination, the telecom regulator in Belgium has the highest decision making power in the regulatory arrangement, while this is the Federal government in the Belgian energy sector. The regulatory decision making power concentration index is low to mediocre for both energy and telecom, and the participation index is low for energy, especially compared to telecom. The latter is true because the regulatory arrangement in energy is in Belgium split between a Federal arrangement and three Regional arrangements, which usually do not interact during decision making procedures. The country analysis shows a rather sizeable divergence in regulatory arrangements. The Netherlands are portrayed as the country where the regulator occupies the most central position, and also is involved in most of the decision making procedures. The Irish regulatory arrangement has a telecom regulator with a high formal independence, but that only has mediocre score for decision making power. As expected, the Irish regulatory arrangement scores the highest in participation. The decision making power concentration is the lowest in Switzerland. However, the social network analysis shows participation is higher than indicated by the formal indices.
The findings on regulatory incoherence showed a need for a typology, which is elaborated on in chapter 5.2. Additionally, it was observed that arrangements with low participation and low decision making power concentration, showed more cases of regulatory incoherence. The Dutch regulatory arrangement, that has a clearly dominant sector regulator and low participation from other actors, does show regulatory incoherence because the sector regulator tries to expand its competences more. Based on the different findings, we postulate that a high participation by the different regulatory actors in a regulatory arrangement limits the potential for regulatory incoherence of all types identified.
The case studies on strategic behavior show that a reduction in regulatory incoherence also limits the possibilities for strategic behavior. If regulatees engage in strategic behavior, than regulatory incoherence is additionally clearer, which in turn makes it more likely that incremental steps are taken to for example make changes in the regulatory arrangement to avoid such incoherence in the future. Each of the four cases on strategic behavior has shown regulatory incoherence as well. The most important conclusion that can be made is that the adaptive capacities of both the regulatory arrangement and the regulatory framework are an important tool to avoid both regulatory incoherence and strategic behavior in the future.

5.2. Theoretical innovations

The REGUNET project brought forth three important theoretical innovations: an instrument to measure formal coordination in a regulatory arrangement, a typology of regulatory incoherence, and a refinement of the typology on strategic behavior.
In the course of the project it became clear that there was a need for a typology of regulatory arrangements based on coordination. A formal method of analysis was developed on the basis of regulatory decision making procedures. This way, a decision making power index was calculated, as well as a participation index, and a decision making power concentration index. The decision making power index shows for each regulatory actor how involved said actor is in regulatory decision making procedures within a sector. The participation index calculates the level in which regulatory actors in general participate in decision making procedures in a sector. Finally, the decision making power concentration index shows in how far in the regulatory arrangement there is one actor that has the power to influence most if not all regulatory decisions in a sector.

To be able to get a complete picture of the regulatory arrangement, it is necessary to combine the participation index and the decision making power concentration index. This leads to four possible types of regulatory arrangement: (1) a high degree of participation and a high degree of decision making power concentration (HP/HC). This means most regulatory actors take part in the decision making procedures, but there is one actor that dominates the decisions; (2) a high degree of participation but a low degree of decision making power concentration (HP/LC). This means that most regulatory actors take part in the decision making procedures, but there is not one actor that can be designated as holding most of the power over decisions; (3) a low degree of participation but a high degree of decision making power concentration (LP/HC). This means that regulatory actors are usually only involved in a limited amount of decision making procedures, but there is one actor clearly dominant; (4) a low degree of participation and a low degree of decision making power concentration (LP/LC). This means that regulatory actors are usually only involved in a limited amount of decision making procedures, and there is not one actor that can be designated as holding most of the power over decisions[4].

The typology of regulatory incoherence elaborated on in the theoretical framework proved to be insufficient. A new typology was thus developed. A distinction was made between four types: (1) incoherencies based on overlaps in competences; (2) incoherencies based on a lack of consultation on interdependent decisions; (3) incoherencies based on the complexity of the decision process; and (4) incoherencies due to blind spots in the competences. Type 1 incoherence occurs when several actors have decision making competences over the same field. Type 2 incoherence occurs when regulatory actors make decisions that are completely within their own field of competence, without overlap, but where interdependence exists between the decisions (e.g. one decision cannot be implemented if the other is carried out). Type 3 incoherence is problematic both because it is an incoherence in its own right, and because it makes the likelihood of occurrence of other types of incoherence higher. Type 4 incoherence is the direct opposite of type 1: dispersion of regulatory competences can cause blind spots. In the worst case scenario this can lead to underinvestment and a disturbance of general competition.

Finally, the REGUNET project refined the typology of mechanisms of strategic behavior: lobbying, contention, finding support, persuasion, acquiescence/containment, threats, and emulation. Lobbying refers to frequent contacts between the political realm and private companies. Contention occurs before court, this on the basis of either procedural or substantial rules. Finding support is a mechanism that is used when several actor are impacted in a similar way by a decision, so that they will band together and assume a common position. Persuasion is similar to this, but there is an important difference: the common goal is not real, and the actor that tries to persuade others is trying to get other actors to take a position that is not beneficial to them in the long run. Acquiescence/containment means that a decision is followed, but this can be part of a ruse; for example judicial and technical reasons can be given not to actually comply with a decision, all the while contending that the actor wants to follow up on the decision. Threats can be both positive and negative. A positive threat happens when an actor claims it will take action once a decision is made. A negative threat is when an actor claims that a certain action will have a negative impact on both the actor itself, and on the public interest. Finally, emulation is not a mechanism in itself, but rather a repetition of mechanisms used by another actor, once it can be observed that those mechanisms had been used successfully.

5.3. Practical conclusions

A number of practical conclusions can be observed:

[4] The indices only look at the regulatory arrangement from a formal perspective however. This formal analysis was expanded in Belgium and Switzerland with a social network analysis. A survey was drafted for this, made by the Swiss partner

- In general a positive evolution can be ascertained in regard to market effectiveness, both in the energy sector in Belgium, as in the telecom sector in all countries discussed.
- No direct connection could be made between the capacity of the sector regulator, and regulatory coherence. This is equally the case for the autonomy of the regulator, which is noteworthy considering the emphasis that was made on the independence of the regulator over the last 20 years[5].
- A connection could be made between the type of regulatory arrangement, and the likelihood of regulatory incoherence. Regulatory arrangement with a high participation index, were less plagued by regulatory incoherence. The decision making power concentration index seemed to be of less importance in this regard.
- It was hard to find a connection between market effectiveness and regulatory capacity or the regulatory arrangement, since market effectiveness evolved similarly in all cases.
- The regulatory arrangement has adaptive capacities, as explained in chapter 5.1.: possibilities for regulatory incoherence and strategic behavior are closed off through incremental steps.

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[5] We however do not claim that autonomy is therefore not important: a good functioning of the regulator itself can be dependent on its ability to act independently from others

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