



FLORENCE SCHOOL OF REGULATION

CONCLUSIONS OF THE ANNUAL CONFERENCE

“INCENTIVE REGULATION OF UTILITIES: 25 YEARS DOWN THE LINE”

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Conference Conclusions

Summary

The 2010 Annual Conference at the Florence School of Regulation focused on various issues related to the topic of 'Incentive Regulation of Utilities: 25 Years down the Line'. Contributions of representatives from academia, energy regulation and the industry included presentations i) on historical experiences with incentive regulation and lessons learned with respect to its effectiveness and suitability as well as ii) on perspectives and future challenges of regulating energy sectors.

Summarizing, it has been highlighted that applied regulatory mechanisms have proven to have positive effects on firms' efficiency but also have certain limitations (e.g. in presence of uncertainty or information asymmetries). There is no apparent consensus or convergence of regulatory policies and the complexity of real world settings (e.g. various, sometimes also conflicting, goals) makes regulation a very challenging task. Future regulatory challenges include amongst others the integration of substantial renewable energy as well as distributed generation into the network which in turn might call for an evolutionary change in regulation design.

A record of the conference presentations as well as the related working papers can be found on the web at www.Florence-School.eu.

Highlights

Session 1: 25 Years of Experience: Which Lessons

The first part of the conference was dedicated to the topic of incentive regulation of utilities and the lessons which can be learned from the last 25 years of experiences from three different perspectives:

- The academic perspective,
- The regulators' perspective, and
- The regulated industry's perspective.

1 – the academic perspective (Per Agrell -UCL-, Gert Brunekreeft -Jacobs University Bremen, Bremen Energie Institut-, Steve Smith -OFGEM-)

To introduce the *academic perspective*, an overview on the theory of incentive regulation is given. This theory forms the basis for the implementation of recent regulatory mechanisms (such as cost plus or price cap regulation). These mechanisms have proved to have positive effects on firms' efficiency. However,

these tools have also negative effects such as the Ratchet-Effect, inverted Averch-Johnson-Effects, or distorted volume adjustment. One of the possible solutions presented could be yardstick competition. One of the new regulatory challenges therefore is to choose efficient yardstick competition mechanisms (DEA, SFA, NVE...).

Then, what is the impact of regulation on investment? Regarding the cases of the UK and Germany, the positive effect expected is in reality not totally unambiguous: in the UK, there was an increase of investment but it started already before the implementation of incentive regulation, in Germany the investments were lower than what they should be. Regarding the quality, the presentation showed that traditional incentive regulation does not give the right incentive to firms.

The academic perspective ended with the experience of OFGEM in regulation towards a low carbon economy. The RPI-X mechanism used by OFGEM has proved to have important positive effects: increasing benefits for consumers and productivity increases of the firms. However this tool has also some limits, especially with respect to uncertainty on a long term perspective. It does not give enough incentive for technology improvement as well as for the best delivers service to consumer.

2 – The regulator's perspective (Pippo Ranci -former AEEG-, Tom Reeves -former CER-, Roland Goerlich -E-Control-)

While comparative analysis and benchmarking are presented as the best tools for setting efficiency standards, in practice they are difficult to implement. Indeed, it is difficult for regulators to find large enough markets with comparable firms. The practise in Europe showed also that incentive regulation faces a conflict between efficiency objectives and the provision of a public service. Finally, one should analyze whether subsidies to investment are compatible with the frame of incentive-oriented regulation.

A better regulation could come up if regulators were more in contact with DSOs (DSOs should decide how to deliver and regulators what to deliver) but also with customers. This will help regulators to face the future regulatory challenges:

- Smart metering: determining what the customers want or should want?
- Determining what the network needs?
- Determining who pays what?
- Renewable integration to networks
- Offshore networks

The regulatory perspective ended with an overview on the Austrian case where incentive regulation has been implemented for distribution. The main benefits presented are: higher volume of investments, strong reduction of system charges, from an international point of view: Germany pays 2/3 more than the Austrian company.

3 – The regulated industry's point of view (Iberdrola, RTE, Vattenfall)

The *regulated industry's perspective* started with stating that regulation has to change towards its new challenges: quality of supply, renewable integration etc. The traditional regulation is not anymore adapted because thought mainly towards costs reduction. Finally, it concluded focusing on investment effects. Regulation has to be changed for giving incentive to firms to invest in renewable, distributed generation, network for new type of energy etc. that is not given by the traditional regulation.

Session 2: Incentive-Based Regulation in the Future

(Nils-Henrik von der Fehr -Oslo University- Alessandro Ortis –AEEG-, Lewis Dale - National Grid-, Jean-Michel Glachant -FSR-)

The second part of the conference was dedicated to the topic of incentive-based regulation in the future. Contributions of representatives from academia, energy regulation and the industry included presentations on three main topics:

- So what – Where do we go from here?
- Network investment planning: Is there space for incentive-based regulation?
- Why smart grids need smart regulation.

1 - So what- where do we go from here?

Around 25 years ago, a general shift in regulation ideology has taken place (i.e. from a focus on expansion towards efficiency motivations). A general movement towards more and more decentralized decisions began as a result of the privatization and deregulation process and regulatory reforms amongst others favoured incentive provision rather than external decisions on company actions. Economic theory analyzing the regulation of network industries was argued to having been quite successful in establishing a conceptual framework. However, it has been less successful in providing practical guidance (i.e. lack of *quantitative* results, sensitivity to underlying assumptions, difficulties in handling realistic settings). There are substantial differences among countries with respect to the speed of regulatory reforms and regulatory design. The relation between regulation and performance is not always clear, there is no apparent consensus or convergence of regulatory policies and the complexity of real world settings (e.g. various – sometimes also conflicting – goals) makes regulation a very challenging task. Even though the principles of good regulation hold, gains from further advancements could be realized (keywords: unbundling, integration of markets). New challenges (e.g. the increase in renewable energy, the increase in capacities, etc.) might call for a change in design of regulation; e.g. cost coverage could become a more important objective than pure efficiency considerations. Regulation without incentives does not exist and the relevant question is the one about the *right* incentives; we do not need a revolutionary change of regulatory practice (i.e. the fundamentals of good regulation remain valid); a one-for-all optimal regulation does not exist due to path dependence, different goals and constraints, etc.; success warrants adaptability; and a pragmatic approach (achieving 'good enough' and avoiding failures) should be followed.

The future regulation has to be developed based on an evolutionary and not a revolutionary change and that constant progress would be necessary. Furthermore, he pointed out that we always have to keep in mind sustainability and supply security challenges.

2 - Network investment planning: Is there space for incentive-based regulation?

What are the results of the introduction of incentive regulation in the UK in the 1990s? After its introduction, a first decrease in costs (i.e. increase in efficiency) has been observed; since about 1999 however, costs have remained at a quite stable level. Post-privatization investment in electricity transmission network has generally exceeded pre-privatization levels. Future challenges especially address the following question: How much capacity is needed? Who shares the oversize/undersize risks? How will increasingly responsive demand impact (smart meters, new loads such as electric cars)? How will revised market arrangements impact (European harmonization, stronger sustainability and security interventions)?

3 – Why smart grids need smart regulation

Climate change and security of supply policies are driving us towards a decarbonization of the electricity system. Electricity grids, and hence their regulatory frameworks, have a key role to play in facilitating this transformation of the electricity system. Smart grids in a context of decarbonization are mainly about system integration (i.e. of distributed generation, demand and storage, and large renewable energy sources). What is expected from grids and what are regulatory tools that could be used to align the incentives of grid companies and grid users with what is expected from them? Three case studies are discussed with respect to the employed regulatory frame. They argue that smart grids need a coherent regulatory framework addressing grid services, grid technology innovation and grid user participation to the ongoing grid innovation. It has been concluded that i) it is important to recognize the new grid service requirements and their respective costs; ii) regulation of grid technology innovation needs to be addressed separately; iii) several regulations may distort the grid user participation to the ongoing grid innovation; and iv) innovating with the regulatory frame, the grid technology and services and the end user participation implies to experiment and to ensure that learning loops will take place.