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Comment on Lars Bergman: The Nordic electricity market—continued success or emerging problems?

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I think that Lars Bergman has written quite a useful piece on the first decade or so of regulatory reform in the Nordic electricity industries, and we seem to agree in our assessments of both successes and emerging problems. In my comment, I will therefore merely underline and elaborate a little on some of the issues discussed in his paper.

It is beyond doubt that the Nordic power sector reform has been a definite success so far, both measured by conventional economic criteria and viewed against the intentions of the reformers. The over-capacity in generation and transmission capacity that was inherited from the old regime has gradually been reduced, as demand growth has been accommodated within existing capacities. Productivity has increased and prices have come down, at least for those consumers willing and able to exploit the new opportunities provided by the liberalised market.

However, it is also true that in some respects the model has not been tested. Although over-capacity has been reduced, the market has never been really tight except, perhaps, this winter. Consequently, we do not actually know how the model will perform in such circumstances. Is the market mechanism flexible enough so that demand will be met and rationing avoided? As over-capacity is eroded, will new investments be forthcoming at the required rate? And will tighter market conditions—in combination with increased concentration—mean that market power, which has not really been an issue so far, becomes more of a problem in the future?

I would like to point to four characteristics that may, individually or in combination, represent potential threats to the continued success of the Nordic electricity market. Firstly, and as already mentioned, there is moderate, albeit steady, growth in demand but little new investment. Secondly, market concentration has been allowed to

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increase considerably, both through mergers and cross-ownership. Thirdly, national markets are becoming more and more integrated, but there is no supranational regulator or competition authority. And, fourthly, network regulation is not particularly well co-ordinated and puts increasing emphasis on cost efficiency to the possible detriment of investment incentives.

1. The importance of infrastructure

As Bergman explains, Nordic transmission and interconnector capacities have traditionally been quite large. Nevertheless, a considerable part of the time transmission constraints are binding, either between or within countries. Consequently, the Nordic market may be divided into 6 (or more) price areas, depending on market conditions.

The awareness of such transmission constraints is essential for evaluating market competitiveness. While many observers tend to view the Nordic market as a single entity, it does in effect consist of a number of sub-markets that are more or less integrated. Consequently, the concept of "the relevant market"—so often the basis for competition policy analysis—takes on a whole new dimension in that its definition must allow for time-varying bottlenecks between sub-markets. In other words, the geographical extent of the relevant market is time dependent and varies between seasons and times of day.

In the recent Statkraft-Agder Energi merger case, the Norwegian Competition Authority argued that transmission constraints are indeed relevant. The merger would make the alliance a dominant player in Southern Norway, an area that is temporarily isolated from the rest of the Nordic market due to (inwards or outwards) transmission constraints. The Competition Authority pointed out that not only may transmission constraints exacerbate market power problems, but market power also affects the extent to which such constraints are binding. With reference to these concerns, the Competition Authority decided to block the merger. In the appeal case, the Norwegian Minister of Labour and Administration accepted the reasoning of the Competition Authority. He nevertheless decided that the merger could go through, on the condition that Statkraft sold off some of its ownership interests in other generation companies. Interestingly, some of the divestiture was made contingent on there being no new investment in transmission capacity in and out of the area.

2. Regulation of infrastructure

Transmission capacity—together with the rest of the electricity transportation network—is, of course, part of industry infrastructure and subject to regulation. Regulatory objectives encompass a number of different goals, among which are cost-reflective tariffs, cost efficiency and optimal investment.

Increasingly, however, it would seem that cost efficiency has gained importance in network regulation. In Sweden, as Lars Bergman discusses, a relatively lax *ex post* regulatory regime is gradually being replaced by a more stringent *ex ante* regime based on cost standards. In Norway, transmission and distribution companies are currently being regulated on the basis of revenue caps. Such caps provide very strong incentives for cost reductions (also by constraining output).

While the emphasis on cost efficiency may be well placed—especially given the history of over-investment in electricity networks—it is nevertheless important to realise that strong incentives for cost reductions may undermine the quality of supply. In particular, an unintended consequence of focusing on cost reductions may be that incentives for new investment are weakened.

As is well known, optimal investment in network capacity poses a particularly complex set of problems that may not be well suited for decentralised decisions. Firstly, there is the problem of network externalities, which means that investments need to be co-ordinated across different parts of the network that may be owned and operated by different parties. Secondly, an optimal expansion of the entire system requires a co-ordination between investment in networks and investment in consumption and generation capacity. And, thirdly, unless competition policy is absolutely perfect, an expansion of the transportation network may be seen as a (second-best) device for reducing problems of market power.

Given the inherited over-capacity, the regulatory problem so far has merely consisted in keeping tariffs at reasonable levels and reducing variable costs. However, as the market tightens and new investment is needed, the regulatory problem becomes much more complicated. Clearly, an optimal expansion of the entire system requires co-ordination between network utilities, as well as between regulators, across all four countries.

3. Conclusion

Regulatory reform is a process, not a once-and-for-all decision. There is no such thing as a "final solution" which, once reached, may allow regulators to lay back and relax. New problems emerge as the industry develops and regulators must maintain their alertness in order to adjust the model as required.

One of the main strengths of the Nordic regulatory regimes has been transparent, pragmatic and flexible decision procedures, based on a clear desire to seek solutions by consensus. One would hope that this quality is maintained in the future and that it will help ensure the further development of industry.

However, the challenge is increasingly with competition policy rather than traditional regulation. As the market tightens, the threat is that imperfect competition among a relatively small number of dominant players may not only undermine the market as such, but also lead to more frequent confrontations between regulators and industry participants. This is a further reason why a strengthening of the regulatory function is warranted, by encouraging co-operation between Nordic regulators (and competition authorities).