

Regulating Natural Monopolies:

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The current EU Merger Regulation,² enacted in 1990, places an emphasis on the creation or the strengthening of a dominant position. Hence, it has been assumed in practice that the Regulation does not apply to horizontal mergers of natural monopolies, for example between network operators in utility sectors. Therefore, such mergers have to be dealt with by means of sector-specific rules. The UK practice in the water and electricity sectors provides successful examples of the use of such a mechanism—at the same time, however, an increasing degree of concentration of regional utilities can be observed throughout Europe.

As a result of this development, the issue of merger control for regional natural monopolies should be addressed. It would seem that the recent proposal on the appraisal of horizontal mergers issued by the European Commission³ could provide a natural framework to appraise mergers between natural monopolies.

This article examines the possible adverse effects of mergers between natural monopolies on social welfare, and then discusses the options for evaluating a merger of network operators within the framework of the newly proposed guidelines, with a particular focus on the trade-off between efficiency savings and an increased risk of coordination.

Adverse effects

It is generally acknowledged that activities operated by (regional) monopolies require government intervention. Therefore, a regulatory body is typically assigned to set price controls, which eliminate monopolistic profits and encourage efficiency. However, due to asymmetric information about, for example, costs and technology, the regulator faces problems of both moral hazard and adverse selection. The informational disadvantage of the regulator can be overcome by a comparison across firms, which could take the form of benchmarking, or a more formal mechanism, such as yardstick competition.

Yardstick competition is becoming an increasingly popular tool among regulators. Using this mechanism, prices charged by the firms are not directly linked to the incurred own costs, but depend on the performance of other firms. For example, Shleifer (1985) describes a simple scheme in which the regulator sets a price cap for a firm based on the average per-unit cost of other firms in the sector.⁴ Firms are allowed to retain the difference between the price cap and their realised cost. It is easy to see that such schemes work in a way that is similar to that of competitive

markets. Since all firms have an incentive to undercut the average cost, the realised costs will be minimal. Examples of applied yardstick competition include the regulation of water and sewerage in England and Wales, the regulation of electricity distribution networks in the Netherlands, and, as described by Shleifer, the regulation of medical care units in the USA.

Mergers increase the information asymmetry existing between the firms and their customers. As soon as a sufficient number of companies merge, the customers (or the regulator acting on their behalf) are no longer able to compare the service and the prices, and will therefore have no means of checking how reasonable they are.

Notice also that a comparison across firms can be operational only if heterogeneous effects are accounted for.⁵ In order to identify such effects, a sufficient number of comparators is required. Since regional natural monopolies are often characterised by the presence of economies of scale, the number of the existing firms is normally already small. Mergers will further reduce the number of comparators, limiting the potential of revealing the true production possibilities. Moreover, as with other markets, a decrease in the number of firms may increase the risk of coordinated actions,⁶ which can harm the public interest just as it could in competitive sectors.

Natural monopolies: merger policy in practice

Since natural monopolies provide their services to the same customers—in both the pre-merger and post-merger situations—one can hardly say that a merger creates or strengthens a dominant position. It is therefore assumed that the general rules for merger assessments are not applicable.

Given that the Merger Regulation does not cover natural monopolies, sector-specific rules for merger appraisals become necessary. However, establishing such rules may appear to be a long process, and, in the meantime, the industries are becoming increasingly concentrated. To our knowledge, sector-specific rules for the assessment of mergers between operators of monopoly networks in utility sectors exist only in the UK. Ofgem and Ofwat are consulted in merger investigations by the Office of Fair Trading and the Competition Commission. Regarding mergers in the water sector in particular, the impact on the public interest, and the implications of the merger for comparative

competition, appear to be important considerations in the final decision (see Section 30 of the UK's Water Act 1989).

The above consideration is similar to that conveyed by the new EU proposal on horizontal merger appraisals: the Commission intends to prevent concentrations that may decrease the benefits to consumers, while allowing concentrations that contribute to fostering these benefits through continued effective competition (see para 9 of the proposed guidelines). Moreover, the approach to the appraisal of horizontal mergers between regional natural monopolies appears to have a great deal in common with that for 'regular firms'; therefore, the new EU horizontal merger guidelines might provide for a general framework covering both cases. This would be an efficient way of addressing the issue, since the need for appraisals of mergers of natural monopolies exists in many sectors and countries.

Applying the draft guidelines

The assessment of a particular merger starts with the definition of the relevant product and geographic markets. In the case of regional monopolies, the market in a 'classical' sense is absent. However, the presence of the possibility of comparing services and prices across regional monopolies could work as a disciplinary instrument. A more elaborated form of such a comparison, yardstick competition, could be regarded as an artificial market, market shares being defined by the ratios of the firm-specific revenue or output to total revenue or output. With such a definition of market shares, the Herfindahl-Hirschman Index (see para 16 of the proposed guidelines) could also be applied as an indicator of the degree of concentration. The geographic dimension of such an artificial market can be defined by the possibilities of inter-regional or international benchmarking, which might be limited due to heterogeneity and differences in the institutional settings.⁷

An important consideration when dealing with mergers between natural monopolies is the trade-off between efficiency and the

increased risk of coordination as a response to regulation. In particular, a merger may increase the risk that firms make agreements about the observable cost levels. A merger may also change the nature of yardstick competition, enabling firms to coordinate their behaviour without even entering into an explicit agreement. Since prices for a specific firm under yardstick competition depend on the performance of other companies, regulators tend to be transparent. As a consequence of this and the symmetry in cost structures,⁸ it is highly likely that firms have detailed knowledge of each other's cost structures, which will, according to paras 52 and 53 of the draft guidelines, increase the risk of coordination.

On the other hand, merging firms might claim that the merger would lead to more efficiency due to economies of scale and/or scope. When assessing a merger, the (claimed) efficiency gain should be weighted against the possible adverse effects—in particular, the increased risk of coordination. This trade-off also emerges in the EU draft guidelines, according to which (see para. 90 and further), the efficiency gains caused by a merger can only be taken into account if consumers benefit directly through lower prices and/or higher quality.

Conclusion

Appraisals of mergers of regional natural monopolies are both important and necessary, since such mergers may adversely affect social welfare. The adverse effects may be attributed to both the loss of comparators and an increased risk of coordination. Merger policy for appraisals of natural monopoly mergers has not, to date, been particularly prevalent. Since the EU draft guidelines on the appraisal of horizontal mergers provide a natural framework to assess mergers, extending the jurisdiction of these guidelines to mergers of regional natural monopolies would seem to be prudent. This would pre-empt the necessity of introducing sector-specific rules for each particular sector characterised by the presence of natural monopolies.

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² 'Council Regulation (EEC) No 4064/89 of 21 December 1989 on the Control of Concentrations between Undertakings', Article 2.

³ Draft Commission Notice on the Appraisal of Horizontal Mergers under the Council Regulation on the Control of Concentrations between Undertakings, *Official Journal of the European Communities*, C331/18, December 31st 2002.

⁴ Shleifer, A. (1985), 'A Theory of Yardstick Competition', *Rand Journal of Economics*, 16:3, 319–27.

⁵ Such effects can include environmental factors (eg, climate and soil characteristics, wages, and consumer preferences). An example of the model that corrects for heterogeneous effects can be found in Bogetoft, P. (1997), 'DEA-based Yardstick Competition: The Optimality of Best Practice Regulation', *Annals of Operations Research*, 73, 277–98.

⁶ See, for example, Selten, R. (1973), 'A Simple Model of Imperfect Competition, Where 4 are Few and 6 are Many', *International Journal of Game Theory*, 2, 141–201, in which the author shows that, in his symmetric Cournot model, four firms are likely to coordinate their actions, while six firms are likely to behave non-cooperatively.

⁷ International benchmarking is difficult because monopolies in different countries face different regulatory regimes. These regimes could provide very different incentives.

⁸ Heterogeneous factors will be accounted for in the sector.