

**DIRECTORATE FOR FINANCIAL AND ENTERPRISE AFFAIRS  
COMPETITION COMMITTEE**

**Non-price Effects of Mergers - Note by Norway**

**6 June 2018**

This document reproduces a written contribution from Norway submitted for Item 4 of the 129th OECD Competition committee meeting on 6-8 June 2018.

More documents related to this discussion can be found at [www.oecd.org/daf/competition/non-price-effects-of-mergers.htm](http://www.oecd.org/daf/competition/non-price-effects-of-mergers.htm).

Please contact Mr. Antonio Capobianco if you have any questions about this document  
[E-mail: [Antonio.Capobianco@oecd.org](mailto:Antonio.Capobianco@oecd.org)]

**JT03432196**

## *Norway*

### **1. Introduction**

1. The topic of non-price effects of mergers has received considerable attention in competition policy in recent years among practitioners and in the academic literature. The main reason is that in most markets firms usually compete not just on prices, but also along several non-price variables, such as quality, service, variety, and innovation. In such markets, mergers between competing firms may result in non-price effects that can be as harmful to consumer welfare as the price effects of the merger. Thus, failing to account for non-price effects may result in approval of anti-competitive mergers that hurt consumers along dimensions other than price (type 1 error), but possibly also in rejection of pro-competitive mergers that involve positive non-price effects that more than offsets the negative price effects (type 2 error).

2. While most competition authorities are aware of the importance of non-price effects in merger cases, the methodology for assessing these effects is still under-developed, especially compared to the recent developments on price effects, such as the upward pricing pressure (UPP) analysis. This is partly due to the complexity of analysing the merger effects in markets where firms compete along several (price and non-price) dimensions and partly also because of measurement problems related to non-price variables, such as quality, variety, innovation, etc. This has led competition authorities to conduct fairly advanced quantitative analyses of likely price effects of the merger, whereas the analysis of likely non-price effects is usually based on internal documents or anecdotal evidence.

3. In this short contribution, we first briefly discuss recent developments in the literature on non-price effects of mergers, focusing on the operational tools for competition authorities, and then afterwards review recent merger cases in Norway, restricting attention to whether and how non-price effects have been analysed by the Norwegian Competition Authority (NCA) in the merger assessment.

### **2. The economic literature**

4. In this section, we give a selective and brief review of some recent developments in the economic literature on non-price effects of merger. While there may be a wide set of possible non-price effects, we primarily restrict attention to merger effects related to product or service quality. Notice, however, that quality and (product) innovation are closely related, implying that the results from the literature on quality effects often apply also to innovation effects.

5. The literature usually distinguishes between quality competition with fixed (regulated) prices and with flexible (endogenous) prices.<sup>1</sup> A clear result from this literature is that, when prices are fixed, harder competition induces firms to improve quality.<sup>2</sup> The reason is that harder competition implies higher demand responsiveness, which makes it more profitable for firms to improve quality to attract more customers, as long as the profit margin is positive. However, when prices are flexible, harder competition will also lead to lower prices and in turn lower profit margins, which counteracts the direct (positive) competition effect on quality. A similar argument applies also to the impact of quality on pricing incentives. In particular, higher quality weakens the incentive to undercut your rival, which counteracts the impact of harder competition on prices.

6. What are the implications of these cross-effects for merger analysis? First, for given quality levels, an anti-competitive merger is likely to lead to higher prices, which is the standard merger effect. Second, for given price levels, an anti-competitive merger is likely to lead to lower quality, which is also a common argument in merger cases. Third, the cross-effects between quality and price, as described above, implies, in markets where firms compete on both price and quality, that an anti-competitive merger may result in possibly three different post-merger outcomes:

1. prices increase and quality decreases;
2. prices but also quality increase; and
3. quality but also prices decreases.

7. The only outcome one can rule out is that prices decrease and quality increases. While in the first outcome consumer welfare is clearly lower due to the merger, this is not obviously the case in the second and third outcome. However, a fairly general result from existing studies is that quality-adjusted prices increase after the merger, even in the second and third outcome, implying that mergers (without synergies) tend to be harmful to consumer welfare in markets where firms compete on both price and quality.<sup>3</sup>

8. These findings, which are based on a full equilibrium merger analysis, implies that a first-order approach, such as the UPP analysis, can be applied to mergers in markets where product or service quality is an important strategic instrument for firms. The study by Willig (2011) provides such an extension of the standard UPP framework to mergers with quality effects. The idea is to specify demand based on quality-adjusted (hedonic) prices, and derive the UPP formula in the standard way just by replacing nominal prices with quality-adjusted prices.

9. While the results derived by Willig (2011) are very useful, there are two issues with this approach. First, the UPP formula is derived for a given level of quality,

---

<sup>1</sup> Examples on markets where firms compete primarily on quality to attract demand include markets where prices tend to be regulated, such as health care, education, pharmaceuticals, and public utility.

<sup>2</sup> See, for instance, Gaynor (2006) and Gaynor and Vogt (2012) for a review of the literature on health care markets, and Brekke et al. (2012) for an application to mergers in hospital markets.

<sup>3</sup> See Brekke, Siciliani, and Straume (2018), and references therein, for more details on merger effects in markets where firms compete on price and quality.

focusing only on the optimal pricing decision (i.e., first-order condition for price), assuming that this can be changed by either increasing price or reducing quality (keeping the other variable constant). A recent paper by Pinto and Sibley (2016) shows that this approach may be too simplistic when both price and quality are endogenous decisions by the merging firms. They derive the standard UPP index, but also an upward quality pressure (UQP) index, and compare the performance of this first-order approach to a full merger analysis (including responses from non-merging firms). Based on numerical simulations, they find that the UPP is a good proxy for nominal price effects, whereas the UQP often fails to predict the direction of the quality effects. The reason is that prices are strategic complements, whereas quality decisions can be strategic substitutes, which implies that responses from non-merging firms can offset the quality effects of the merger.

10. A second issue with adjusting the standard UPP formula to account for quality effects of a merger is that quality is inherently difficult to measure and observe. While prices (and volumes) usually can be observed and measured directly from transaction data, this is not the case for product or service quality, which usually has to be derived from other data sources. Furthermore, quality is often multi-dimensional and based on individual consumers' subjective perception (such as brand value) rather than objective indicators. It can also be difficult to translate quality units into monetary measures, which in principle is necessary when incorporating quality effects of the merger into the standard UPP framework, as suggested by the above-mentioned studies.

11. Despite measurement issues, there is a growing empirical literature on quality effects in the fields of both merger simulations and ex-post merger evaluation. One example is Fan (2013) who develops a structural model and simulates the likely effects of a blocked merger in the US daily newspaper market, allowing for adjustments in not just prices but also in newspaper characteristics, such as content quality, local vs national news ratio, and content variety.<sup>4</sup> The simulation shows that if the merger had been approved, it would have led to an increase in subscription prices, but also a decrease in content quality, local news ratio and content variety. A key result from their paper is that ignoring adjustments of product quality causes substantial differences in the estimated effects of the merger. In particular, the study shows that the loss to readers would have been under-estimated by 1.05 million US dollars.

12. While accounting for non-price effects is obviously important in many markets, a key challenge for competition authorities is the short time limits in merger control. Even a full merger simulation focusing only on possible price effects is usually not feasible for many competition authorities due to lack of time and resources. Thus, extending a merger simulation to also account for non-price effects is therefore almost impossible for most competition authorities.

13. However, the recent developments in the first-order approach to merger analysis, i.e., the UPP framework, is promising, mainly because this type of analysis is much less resource-intensive. While the recent developments in the economic literature demonstrate how non-price effects can be taken into account, there are still

---

<sup>4</sup> Other examples include Israel et al. (2013) and Tenn et al. (2010) who use merger simulation to study price and quality effects in the airline market and ice cream market, respectively. For an ex-post analysis of quality effects of a hospital merger, see e.g. Romano and Balan (2011).

some challenges left, especially related to the analysis and measurement of the non-price (quality) effects of the merger. In the next section, we review the recent merger cases in Norway, with an emphasis on whether and how non-price effects have been taken into account by the NCA in the merger assessment.

### 3. Recent merger cases in Norway

14. The merger control in Norway is founded in the Competition Act from 2004 that harmonised the Norwegian competition law with the EU legislation. While the merger control to a large extent was aligned with the EU regulation, we had a total welfare standard until as late as 2016. The revisions of the competition legislation in 2016 adopted a consumer welfare standard, allowing only for efficiency gains that benefit consumers. Thus, the Norwegian competition act is now fully harmonised with the EU merger regulation.

15. All mergers between firms with an individual turnover above 100 million NOK and a joint turnover above 1 billion NOK have to be notified to the NCA. There is a stand-still obligation implying that parties cannot start the merger process before the NCA has explicitly approved the merger, with significant fines for violating the merger notification regulation. Each year the NCA receives around 100 notifications of mergers and acquisitions.

16. When the merger has been notified, the NCA has in total 100 days before making a final decision. If remedies are proposed there may be 10-15 days extension of the deadlines depending on when during the process the remedies are proposed. Since the new competition act in 2004, the NCA has intervened against in total 41 mergers, with 26 being approved after remedies and the residual 15 being prohibited. This implies that there is on average three merger interventions per year in Norway the last two decades.

17. To analyse the extent to which non-price effects have been a part of the merger assessment by the NCA, we have reviewed all merger cases that have entered phase 2 the last three years from 2015 to 2018. The table below gives a description of the full set of phase 2 mergers handled by the NCA in this period. The table shows that of the 15 phase 2 merger cases since 2015, four mergers have been prohibited, six mergers have been accepted with remedies, and five mergers have been cleared in phase 2 without any further conditions.

18. When reviewing the recent merger cases in Norway, we assessed whether non-price effects are considered in the decision, but also whether the NCA actually conducted an explicit analysis of such effects in the merger assessment. We also indicate the merger cases where the UPP or GUPPI framework has been used to assess the possible price effects of the merger.

19. From the table, we see that non-price effects are frequently mentioned in the merger decisions, but very rarely actually analysed in any detail by the NCA. There are indeed only three of the 15 phase 2 merger cases where non-price effects actually were subject to closer scrutiny by the NCA. In these three cases, however, the analysis was mainly a qualitative assessment of likely non-price effects based on internal documents and anecdotal evidence. Thus, the NCA has not conducted any quantitative analysis of non-price effects in the recent merger cases, and there has been no attempt

to integrate quality effects into the standard UPP framework when this framework has been applied in the merger assessment.

20. Before concluding, let us briefly describe the qualitative assessment of the non-price effects in the three merger cases where the NCA actually conducted an in-depth analysis. The first case (Orkla – Cederroth) is a merger between two upstream producers of soap products that are distributed and sold in the grocery market. In this case, the NCA was concerned that the merger would result not only in price increases but indeed also in reduced incentives for innovation in new soap products. To assess this concern, the NCA considered internal documents, anecdotal evidence of previous product launches, and the degree of product line overlap between the merging parties. Based on a qualitative assessment founded in economic theory, the NCA concluded that the merger was likely to reduce incentives for innovation. The merger was approved after divestitures of brands (soap products) with large consumer overlap between the two firms.

21. The second case (Aleris – Teres) is a merger between two private hospitals or clinics that provide a set of outpatient services both to the National Health Service and to the private market. In the private market, the hospitals set prices freely, whereas services offered to NHS patients are fixed subject to a competitive tendering process. The NCA assessed the possible quality effects of the merger based on internal documents, interviews with public and private purchasers of their services, and an assessment of the likely quality effects (such as service quality, waiting times, etc.) based on economic theory. The merger was eventually approved with divestitures of clinics in regions with substantial overlap.

22. Finally, the last case (Umoe/Peppes – Dolly Dimple's) is a proposed merger in the pizza restaurant market in Norway. The merging parties were the two only nationwide premium pizza with restaurants. They offered also take-away and home delivery services. The NCA conducted a survey and a GUPPI analysis to elicit the possible price effects resulting from the merger. Lower service quality was a concern for the NCA in the assessment. This was assessed in a qualitative way by referring to economic theory. In the decision, the NCA interpreted the results from the GUPPI analysis as quality-adjusted price increases, implicitly assuming that the GUPPI measure captured the change in prices relative to service quality. However, service quality was not explicitly measured or quantified in the analysis. The merger was eventually prohibited by the NCA.

#### 4. Concluding remarks

23. Non-price effects of mergers have got increasing attention among practitioners and academics concerned with competition policy in recent years. A key concern is that ignoring non-price effects may result in harmful mergers being cleared (type 1 errors) but possibly also prohibition of beneficial mergers (type 2 error) when the non-price effects go in the opposite direction of the price effects. Results from studies simulating the likely effects of blocked mergers show that merger effects can be largely biased when ignoring non-price effects.

24. There have been significant developments in the literature on UPP analysis on non-price effects. A first result is to reinterpret the UPP formula in terms of quality-adjusted prices instead of nominal prices. However, this approach has been criticised

on the grounds that it assumes quality to be fixed. Further developments of the first-order approach to merger analysis have developed a so-called upward quality pressure (UQP) index, but simulation results show that this index often fails to predict the likely quality effects of a merger. Thus, there remains work to be done in order to accurately account for non-price (quality) effects within the UPP framework.

25. In this short contribution, we have also reviewed the assessment of non-price effects in the recent merger cases in Norway since 2015. This review reveals that non-price effects are frequently mentioned in the merger decisions, but very rarely subject to an in-depth analysis. In the few cases where non-price effects were assessed more closely, the analysis is primarily qualitative (theoretical) in nature with evidence being based on internal documents from the parties, interviews with competitors or buyers, and anecdotal observations.

26. Since many of the mergers are likely to involve significant non-price effects, this short contribution demonstrates that there is great scope for further development of practical tools for competition authorities in the merger assessment. However, these developments need to account for measurement issues related to non-price variables, and resource and time limits that most competition authorities face in the merger control.

## References

- Brekke, K., Siciliani, L., and O.R. Straume (2016), "Hospital mergers with regulated prices", *The Scandinavian Journal of Economics*, Vol. 119 (3), 597-627.
- Brekke, K., Siciliani, L., and O.R. Straume (2017), "Horizontal mergers and product quality", *Canadian Journal of Economics*, Vol. 50 (4), 1063-1103.
- Fan, Y., (2013), "Ownership consolidation and product characteristics: A study of the US daily newspaper market", *The American Economic Review*, Vol. 103 (5), 1598-1628.
- Israel, M., Keating, B., Rubinfeld, D.L., Willig, B., (2013), "Airline network effects and consumer welfare", *Review of Network Economics*, Vol. 12, 287-322.
- Gaynor, M., (2006), "Competition and quality in health care markets", *Foundations and Trends in Microeconomics*, 2 (6).
- Gaynor, M., and R.J. Town (2011), "Competition in health care markets", *Handbook of Health Economics*, Chapter 9, (M.V. Pauly, T.G. McGuire, P.P. Barros, eds.), Elsevier.
- Pinto, B., and D. Sibley (2016), "Unilateral Effects with Endogenous Quality", *Review of Industrial Organization*, Vol. 49 (3).
- Romano, P., Balan, D., (2011), "A retrospective analysis of the clinical quality effects of the acquisition of Highland Park Hospital by Evanston Northwestern healthcare. *International Journal of the Economics of Business*, Vol. 18, 45-64.
- Tenn, S., Froeb, L., Tschantz, S., (2010), "Mergers when firms compete by choosing both price and promotion", *International Journal of Industrial Organization*, Vol. 28, 695-707.
- Willig, R., (2011), "Unilateral competitive effects of mergers: Upward pricing pressure, product quality, and other extensions", *Review of Industrial Organization*, Vol. 39, 19-38



**Table: Summary of phase 2 merger cases in Norway 2015 to 2018, non-price merger effects**

Year/Code	Parties	Market	Merger type	Non-price effects	In-depth analysis	Decision
V2018	Vipps – BankAxept – BankID	Mobile payment, identification, interbank transfers	Vertical	NO	NO	Accepted conditional on remedies (access)
A2017-4	Insula/Apetit – Maritim foods	Fish products to grocery market (private label)	Horizontal upstream	NO	NO	Cleared (private label, buyer power)
A2017-2	Adams Matkasse – Godtlevvert.no	Food boxes – direct delivery to private homes	Horizontal	Service quality	NO	Cleared (dynamic market, competitive pressure online grocery)
A2017-1	Telia – Phonero	Telecom merger between MNO (Telia) and MVNO (Phonero)	Horizontal and vertical	Service quality	NO	Cleared (elimination of double marginalisation)
V2017-19	Eimskip – NorLines	Shipping (transport of frozen fish)	Horizontal upstream	NO	NO	Prohibited
V2016-6	Umoe restaurants/Peppes – Dolly Dimple's	Pizza restaurants (+ take away, home delivery)	Horizontal downstream	Service quality	Qualitative assessment	Prohibited
V2016-5	Fjord1 – Torghatten	Merger between largest and second largest ferry companies	Horizontal	Service quality	NO	Prohibited
V2016-2	AT Skog – NEG Skog	Timber	Horizontal upstream	NO	NO	Prohibited
A2015-2	NorgesGruppen – Tiger/Esso	Grocery products in small stores and gasoline stations	Horizontal downstream	NO	NO	Cleared (limited geographical overlap)
A2015-1	Nets Holding – Kortaccept Nordic/Nordea	Payment card transactions	Horizontal and vertical	NO	NO	Cleared (countervailing buyer power)
V2015-31	Aleris Helse – Teres Medical Group	Outpatient care (orthopaedics, surgery)	Horizontal	Service quality	Qualitative assessment	Accepted conditional on remedies (divestitures)
V2015-30	Orkla – Cederroth	Soap products – grocery market	Horizontal upstream	Product innovation	Qualitative assessment	Accepted conditional on remedies (divestiture)
V2015-29	St1 Nordic – Smart Fuel	Gasoline stations	Horizontal downstream	NO	NO	Accepted conditional on remedies (divestitures)
V2015-24	Coop – ICA	Grocery market	Horizontal downstream	Service quality	NO	Accepted conditional on remedies (divestitures)
V2015-1	TeliaSonera – Tele2	Telecom	Horizontal and vertical	Quality / Investment / Innovasjon	NO	Accepted conditional on remedies (divestitures + access)