This note is submitted by the United States to the Competition Committee FOR DISCUSSION under Item VI at its forthcoming meeting to be held on 19-20 June 2013.
ROUNDTABLE ON THE ROLE AND MEASUREMENT OF QUALITY IN COMPETITION ANALYSIS

-- Note by the United States --

1. This paper responds to the Chair’s letter of April 4, 2013, calling for submissions for the roundtable on The Role and Measurement of Quality in Competition Analysis. The letter poses a series of questions about the consideration of quality in competition analysis.

2. It has long been recognized under U.S. antitrust law that quality is among the attributes of a product or service that typically benefits from competition:

   The Sherman Act reflects a legislative judgment that ultimately competition will produce not only lower prices, but also better goods and services. “The heart of our national economic policy long has been faith in the value of competition.” Standard Oil Co. v. FTC, 340 U.S. 231, 248 [1951]…. The assumption that competition is the best method of allocating resources in a free market recognizes that all elements of a bargain—quality, service, safety, and durability—and not just the immediate cost, are favorably affected by the free opportunity to select among alternative offers.

   National Society of Professional Engineers. v. U.S., 435 U.S. 679, 695 (1978). Indeed, for purposes of antitrust analysis, the U.S. Supreme Court has further observed that there is no meaningful distinction between effects on non-price, such as quality, and price competition.

3. Quality effects can be relevant to antitrust analysis, therefore, in several ways. First, just as reduced output and increased prices can be deemed anticompetitive, depending on the circumstances, so too can reductions in quality. Second, beneficial effects on quality can be deemed procompetitive, justifying some restraints. However, courts have routinely rejected the assertion that restraints can be justified on the ground that competition itself might lead to decreased quality, viewing the arguments as a “frontal assault on the basic policy of the Sherman Act.” Id. at 695.

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1 See also Nat’l Collegiate Athletic Ass’n v. Bd. of Regents of Univ. of Okla., 468 U.S. 85, 104 n.27 (1984), quoting N. Pac. Ry. Co. v. U.S., 356 U.S. 1, 4–5 (1958) (The Sherman Act “rests on the premise that the unrestrained interaction of competitive forces will yield the best allocation of our economic resources, the lowest prices, the highest quality and the greatest material progress….”).

2 Referring to claims of increased price and decreased quality, the Court has observed: “for antitrust purposes, there is no reason to distinguish between price and nonprice components of a transaction.” Pac.Bell Tel.Co. v. Linkline Commc’ns, Inc., 555 U.S. 438, 450 (2009).

3 See also FTC v. Superior Court Trial Lawyers Ass’n, 493 U.S. 411, 423-24 (1990) (rejecting assertion that collective effort to raise prices through a concerted refusal to deal could be justified through claims that higher prices would improve quality of legal services); Patrick v. Burget, 486 U.S. 94, 105 (1988) (rejecting physicians’ contention “that effective peer review is essential to the provision of quality medical care and that any threat of antitrust liability will prevent physicians from participating openly and actively
4. Quality issues have regularly arisen in investigations by the Federal Trade Commission and the Antitrust Division of the U.S. Department of Justice (collectively, “the Agencies”) and in litigated cases in the courts across many industries, especially cases involving professions and health care. Anticompetitive reductions of quality have been found in cases involving mergers (discussed below), single firm conduct, and concerted behavior by rivals. The agencies and the courts also have recognized that improvements in product or service quality may justify certain restraints on competition, especially vertical restraints, but such claims have been rejected when unsupported by evidence. As noted below, third, differences in quality also may be relevant to market definition for purposes of antitrust analysis.

5. The Agencies often analyze quality as a key feature of the competitive process. As noted in the Agencies’ Horizontal Merger Guidelines and discussed below, quality can be an important aspect of competition that the Agencies consider in analyzing a merger. For example, the Department of Justice successfully argued in court that the loss in competition caused by the acquisition of one manufacturer of tax preparation software (TaxACT) by another (H&R Block) was likely to harm consumers via higher prices and/or lower quality. In the same way, analysis of quality issues can be important in reviewing civil non-merger conduct. For instance, the FTC’s recent investigation of Google’s search practices focused on the question of whether Google’s search results were tailored primarily to provide high quality results, or were designed to disadvantage Google’s rivals. The Commission observed that Google’s primary goal was to provide useful search results.

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4 See, e.g., *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 605-07 (1985) (concluding that consumers were adversely affected by elimination of superior product); *U.S. v. Microsoft Corp.*, 253 F.3d 34 (D.C. Cir. 2001) (rejecting Microsoft’s assertions that various of its product design choices improved the quality of its software).

5 See, e.g., *F.T.C. v. Indiana Fed’n of Dentists*, 476 U.S. 447, 462-64 (1986) (upholding FTC’s conclusion that refusal by dentists to provide x-rays to insurers was anticompetitive and not justified on grounds of increased quality of care).

6 “The antitrust laws do not require manufacturers to produce generic goods that consumers do not know about or want. The manufacturer strives to improve its product quality or to promote its brand because it believes this conduct will lead to increased demand despite higher prices. The same can hold true for resale price maintenance.” *Leegin Creative Leather Prods., Inc. v. PSKS, Inc.*, 551 U.S. 877, 897 (2007); see also *Cont’l T.V., Inc. v. GTE Sylvania Inc.*, 433 U.S. 36, 55 (1977).

7 See, e.g., *Eastman Kodak Co. v. Image Tech. Servs., Inc.*, 504 U.S. 451, 483-84 (1992) (rejecting manufacturer’s claim that its vertical restraints limiting third-party service organizations’ access to replacement parts were justified to maintain quality of post-sale service in light of evidence that third parties were providing superior quality service).


9 See United States v. H&R Block, Inc., No. 11-00948, 2011 WL 5438955, at *69 (D.D.C. Nov. 10, 2011) (“Even if TaxACT’s list price remains the same, the merged firm could accomplish what amounts to a price increase through other means. For example, instead of raising TaxACT’s prices, it could limit the functionality of TaxACT’s products, reserving special features or innovations for higher priced, HRB-branded products.’’), available at www.justice.gov/atr/cases/f277200/2772287.pdf.

10 The following passage from the Statement of the Federal Trade Commission Regarding Google’s Search Practices explicitly recognizes the role of quality in the competitive process: “The totality of the evidence indicates that, in the main, Google adopted the design changes that the Commission investigated to improve the quality of its search results, and that any negative impact on actual or potential competitors was incidental to that purpose. While some of Google’s rivals may have lost sales due to an improvement
6. This paper starts with a conceptual framework of quality and its measurement drawn from the economic literature, and then discusses some theoretical issues that distinguish competition via quality from the more familiar price competition. The paper then focuses on the analysis of quality in mergers, specifically in market definition and assessment of competitive effects. Finally, the paper discusses the important role quality analysis plays in the FTC’s antitrust enforcement in hospital markets.

1. Defining Quality

7. One way to conceptualize products and services is as collections of attributes that consumers evaluate in making their purchasing decisions. A common economic definition of a quality attribute is one where all consumers would agree that the product or service would be improved with higher levels of the attribute, all else held equal.

8. The processing speed of a computer is one example of this. Keeping constant the price, reliability, electricity usage, heat output, and all other factors, it seems likely that virtually all consumers would have a preference for a faster computer. On the other hand, the physical size of a notebook computer would not be classified as a quality attribute. Some consumers prefer a smaller computer that is easy to carry, while others like large screens and large keyboards.

2. Measuring Quality

9. Whether or how quality can be measured in a particular setting depends on the nature of the quality attributes. A first step for a competition authority is to determine how market participants define, measure, and assess quality in the ordinary course of business, via interviews and document review. A systematic review of the academic and popular economics literature may also reveal useful measures of quality.

10. With some products, like computer central processing units, the important quality attributes such as processing speed, reliability, power consumption, and heat generation, may all be measurable. In these instances, direct measurements or estimates of these attributes will likely be available in company documents or trade publications.

11. On the other hand, some quality attributes may be difficult to measure with any objective technique. For instance, drivers of automobiles may unanimously prefer automobiles with a more “solid feel.” This attribute would be difficult to measure, but could potentially be approximated using surveys of consumers.

12. The measurement of quality typically will prove most useful when it can be weighed against other important changes in a market, such as prices, for instance. This calculus is straightforward when it is determined that consumers are harmed in both price and non-price dimensions, such as in the DOJ’s investigation of Microsemi’s 2008 acquisition of Semicoa. Not only did the prices for high-reliability

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in Google’s product, these types of adverse effects on particular competitors from vigorous rivalry are a common byproduct of ‘competition on the merits’ and the competitive process that the law encourages.” In the Matter of Google Inc., FTC File No. 111-0163 (Jan. 3, 2013), available at www.ftc.gov/os/2013/01/130103goolesearchstmtofcomm.pdf.

11 In practice, the strict unanimity condition may need to be relaxed somewhat for this to be a useful concept. But it seems unlikely that in any given instance the presence of a few outliers who would not agree that more of an attribute is better would impede an analysis that treated the attribute as a quality attribute.
transistors and diodes increase, but the reliability of delivery times—an aspect of quality critically important to aerospace customers—had declined.\footnote{See Economic Evidence in Merger Analysis, Paper submitted to OECD by United States, at 2 (Feb. 9, 2011) ("Economic Evidence").}

13. However, price and quality will often be in tension, as when increased quality, either of a product or service, comes in concert with increased price. In these circumstances, when the conduct involves agreements between rivals, the courts have consistently held that the trade-off should be done by consumers, and not by the suppliers, ex ante, through restraints on trade.\footnote{See, e.g., Nat’l Soc’y of Prof’l Eng’rs. v. U.S., 435 U.S. 679, 694 (1978) (noting that any trade-off between price and quality is a consumer choice, not one to be made by rivals in the market).} Whereas when vertical restraints are involved, as with resale price maintenance, the courts have been more supportive of ex ante restraints adopted by suppliers to promote high quality point-of-sale consumer services, despite possible increases in price.\footnote{See, e.g., Leegin Creative Leather Prods., Inc. v. PSKS, Inc., 551 U.S. 877, 897 (2007); see also Cont’l T.V., Inc. v. GTE Sylvania Inc., 433 U.S. 36, 55 (1977).}

3. The Effects of Competition on Quality

14. The economics literature supports the view that, when analyzing markets in which quality is an important component of competition, competition authorities should consider whether the characteristics of a market and a change in the competitive environment would likely cause firms to provide higher or lower quality. In the theoretical economics literature, models where firms set prices and quality show that the impact on quality of a change in the level of competition, all else held equal (including the cost of producing quality), is indeterminate.\footnote{See Brekke, Kurt R., Luigi Siciliani, and Odd Rune Straume. “Price and quality in spatial competition.” REG’L SCIENCE AND URBAN ECON. 40, no. 6 (2010): 471-80.} That is, quality can either rise or fall as a market becomes more competitive.

15. Reviews of the empirical evidence on this relationship between competition and quality (holding all else fixed) often find an increase in quality with increased competition, but some studies have found the opposite result.\footnote{Id at 478. ("Although there are some mixed results, the main picture painted from the above-referred empirical studies of quality in spatial competition is that increased competition generally leads to a higher supply of quality.") See also Gaynor, M., & Town, R. (2012). “The impact of hospital consolidation—Update.” THE SYNTHESIS PROJECT, POLICY BRIEF NO. 9. Princeton, NJ: Robert Wood Johnson Foundation, 2012. (“All of the [nine] U.S. studies except for one find that competition improves quality, while the English studies uniformly find negative effects.”) In instances where firms are thought to be unable or unlikely to change quality much, or when quality is difficult to measure, it may be the case that the most informative analysis is a careful study of how a loss in competition affects prices. Kaplow and Shapiro note that “[a] price increase often serves as a proxy for other possible anticompetitive effects, such as a reduction in product quality or service or a decrease in the pace of innovation.” A. Mitchell Polinsky and Steven Shavell, HANDBOOK OF LAW AND ECONOMICS at 1073-1225 (2007), available at http://EconPapers.repec.org/RePEc:eee:lawchp:2-15.} In sum, the results from the theoretical and empirical economic literature support the notion that a competition agency needs to tailor the quality analysis to the particular market under consideration when it believes quality is an important factor in the investigation.\footnote{17 In instances where firms are thought to be unable or unlikely to change quality much, or when quality is difficult to measure, it may be the case that the most informative analysis is a careful study of how a loss in competition affects prices. Kaplow and Shapiro note that “[a] price increase often serves as a proxy for other possible anticompetitive effects, such as a reduction in product quality or service or a decrease in the pace of innovation.” A. Mitchell Polinsky and Steven Shavell, HANDBOOK OF LAW AND ECONOMICS at 1073-1225 (2007), available at http://EconPapers.repec.org/RePEc:eee:lawchp:2-15.}
4. Market Definition

16. The U.S. DOJ/FTC Horizontal Merger Guidelines explicitly state that changes in quality may provide information about demand substitution relevant to market definition analysis, which is requisite information in order to perform a Hypothetical Monopolist Test on a candidate product market. “Market definition focuses solely on demand substitution factors, i.e., on customers’ ability and willingness to substitute away from one product to another in response to a price increase or a corresponding non-price change such as a reduction in product quality or service.”

17. In addition to using variations in product quality to reveal substitution patterns between products, quality attributes may also serve as observable characteristics that can be used to distinguish between products that will be included in a candidate product market and those that will not. To the extent that higher degrees of substitutability are expected among relatively similar products, measures of quality may prove useful for distinguishing between similar and dissimilar products. For instance, in 2003, the FTC alleged a relevant product market for “super-premium ice cream,” which was differentiated from other types of ice cream based on a number of observable characteristics, many of which would roughly be considered quality attributes, such as using pure vanilla rather than imitation vanilla flavoring. The “super-premium” classification was commonly used by market participants to refer to a small number of ice cream products that generally were considered to be high-end offerings.

18. However, being able to distinguish between groups of products based on quality measures or other observable characteristics does not necessarily address the central question of market definition, which is whether a hypothetical monopolist controlling all products in the candidate market would be able to significantly increase prices as indicated by estimates of demand substitution. Support for the candidate super-premium ice cream market definition came from FTC staff’s estimation of cross-price elasticities between various brands of ice cream using observed variations in prices.

5. Discussion of Quality Analysis in the Competitive Effects Analysis of Mergers

19. In textbook economic models of price competition, firms set the prices that maximize their own profits given the prices charged by all rival firms. In this framework, non-price attributes of the products are fixed, rather than being chosen by the firms. This framework has become such an important part of antitrust analysis because it illustrates a fundamental principle of merger analysis, which is that mergers can change the pricing incentives of the merging firms. The incentives change via two important mechanisms: reductions in competition tend to cause firms to increase prices; and firms that realize marginal cost efficiencies tend to decrease them. The effect of the merger depends on the relative magnitudes of these incentives. This textbook framework does not specifically include merger-induced changes in product attributes, such as quality.

20. Insofar as the attributes are not fixed but are chosen by the firms, they may also change as the result of a merger, just like price. Indeed, like price, a merger may affect quality choices through two broad categories of effects: a reduction in the competitive incentive to provide quality superior to a rival’s, and an

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18 2010 Horizontal Merger Guidelines at 7.
19 Although “super-premium” may sound as if it is a quality measurement, a non-trivial number of consumers prefer lighter, less rich ice creams.
20 2010 Horizontal Merger Guidelines at 6.
21 There are also well-established models of quantity competition, but these generally are applied to homogeneous products where quality is not a major issue, and so are not further considered in this submission.
efficiency in the costs associated with producing higher quality. A “quality efficiency” would tend to cause the firms to have the incentive to increase quality levels, all else equal.\textsuperscript{22} Quality efficiencies are distinct from conventional efficiencies, which are changes in the cost of producing a unit of output. As with prices, the net effect of the merger on quality may be negative or positive depending on how the quality efficiency compares to the effect of the loss in competitive incentives. Parties may argue that the facts of a particular case suggest that the claimed efficiencies for quality production outweigh competitive effects, but efficiencies, including quality efficiencies, will most likely make a difference when likely adverse effects are not large.\textsuperscript{23}

6. Application of Quality Analysis in the Evaluation of Hospital Mergers

21. Quality issues frequently arise in the health care industry, particularly in cases involving physician cooperation, scope of practice of professionals, and hospital mergers, which will be the focus of the remainder of this paper (though many of the points are applicable to other industries as well).\textsuperscript{24} Most of the FTC’s recent hospital merger cases involved claims by the merging parties that the merger would improve clinical quality. In several such cases, expert witnesses on both sides performed analyses regarding clinical quality issues.\textsuperscript{25}

22. As discussed in Romano & Balan (2011),\textsuperscript{26} such claims can be plausible, and are valid subjects of merger analysis. The paper develops a conceptual framework for evaluating such claims, and points out that plausible efficiency claims are characterized by reductions in the cost of producing quality.\textsuperscript{27} That is, the evaluation of possible quality improvements from a hospital merger is justified when there is a significant possibility that the merger will generate cognizable quality efficiencies.

\textsuperscript{22} The DOJ and the FTC recognize the importance of consideration of quality efficiencies in the Commentary on the Horizontal Merger Guidelines, available at www.ftc.gov/os/2006/03/CommentaryontheHorizontalMergerGuidelinesMarch2006, at 49 (“Efficiencies in the form of quality improvements also may be sufficient to offset anticompetitive price increases following a merger. Because a quality improvement involves a change in product attributes, a simple comparison of pre- and post-merger prices could be misleading. A careful analysis of the effects of changes in product attributes and prices on consumer welfare is likely to be necessary.”).

\textsuperscript{23} See 2010 HORIZONTAL MERGER GUIDELINES at Section 10. In a decision granting a preliminary injunction to prevent the merger of two hospitals, and after significant testimony by the FTC’s expert witness on quality, the judge stated that “the court is unable to declare that these [quality improving] goals would be realized with, and only with, the proposed merger, or that these claimed benefits are sufficient to overcome the FTC’s compelling prima facie case.” FTC v. OSF Healthcare System and Rockford Health System, No. 3:11-cv-50344 at 42 (N.D. Ill. April 5, 2012), available at www.ftc.gov/os/caselist/1110102/120505rockfordmemo.pdf.

\textsuperscript{24} In these cases, clinical quality was distinguished from non-clinical “amenities,” which in principle are also valid elements of quality, but which in practice did not receive much attention.

\textsuperscript{25} These include FTC v. Evanston Nw. Healthcare Corp. (see Opinion of the Commission, available at www.ftc.gov/os/adjpro/d9315/070806opinion.pdf ) and FTC v. OSF Healthcare Sys. and Rockford Health Sys., ibid 22.


\textsuperscript{27} “The above discussion suggests that a hospital merger is unlikely to result in improved quality absent a cost change. But a merger can result in higher quality if it reduces the cost of producing quality.” Id. at 46-47.
23. Fortunately, certain aspects of clinical quality, at least in hospitals, lend themselves to measurement in a way that other kinds of quality often do not. In general, the development of quantitative metrics for measuring different aspects of hospital quality (e.g., mortality, complications) is now a well-developed discipline. Many of the analyses discussed in Romano & Balan, which make use of these metrics, can be performed with readily available data.

24. In recent years, the FTC has brought or prepared to bring a number of hospital merger cases. An analysis of the likely effects of the merger on clinical quality has figured prominently in all of them. Here we discuss two of those cases, which were selected because they both involve public proceedings with public records to which we can cite.

25. The quality claims made by the merging parties in the Evanston case are discussed in detail in the Romano & Balan paper. Unlike most merger cases, the Evanston case was brought retrospectively, some years after the merger was consummated. This made evaluating the effects of the merger easier than in most prospective cases, which must rely on the sometimes more difficult task of making predictions about probable future effects.

26. A central assertion by the merged parties in the Evanston case was that the merger had increased quality at the independent Highland Park Hospital in a number of areas, including: cardiac surgery and interventional cardiology; the purported benefits to Highland Park of being affiliated with a teaching hospital (Evanston Hospital); improved nursing care; and obstetrics. The FTC’s quality expert, Dr. Patrick Romano, addressed these claims by linking them to well-established quality metrics, which could then be analyzed quantitatively. That is, he took each claimed quality improvement, and identified which metrics would be expected to show improvement if the claim was true. Then, using a statistical technique known as difference-in-differences analysis, he analyzed whether those metrics had in fact improved (relative to a group of control hospitals) following the merger. He found little evidence of quality improvements and even some limited evidence of quality deterioration.

27. In the Evanston case, the Administrative Law Judge and the Commission both rejected substantially all of the parties’ clinical quality claims. Regarding the quantitative analysis described above, the Commission said: “We recognize that assessing the impact on quality of ENH’s [Evanston Northwestern Healthcare, the acquiring hospital system] changes at Highland Park [the acquired hospital] is not a simple matter and that, as Dr. Chassin [ENH’s clinical quality expert] testified, outcome measures are not always valid measures of quality. TR 5143-45, 5148 (Chassin).” However, the Commission went on to find that “as is the case with claimed economic efficiencies, difficulties of proof do not relieve ENH of its burden to produce verifiable evidence. Given the particular circumstances of this case – the fact that the merger has already been consummated, many of the claimed improvements were implemented years ago, and ENH routinely tracks numerous quality indicators – ENH could have produced more concrete evidence of its claimed benefits.


29 A number of quality metrics were analyzed. The most important were the Inpatient Quality Indicators and the Patient Safety Indicators developed by the Agency for Healthcare Research and Quality.

evidence than it did to substantiate its claims that the changes it made at Highland Park improved the quality of care.\textsuperscript{31}

28. In the Rockford case, which was a prospective challenge, the merging parties similarly made a number of clinical quality claims, of which we mention two. First they asserted that, following the merger, the merging hospitals would consolidate some services at a single location increasing the volume for certain procedures, which would purportedly lead to improvements in patient outcomes. Second, they also asserted that the acquisition would help the hospitals achieve greater clinical integration, a major goal of healthcare reforms underway in the U.S.\textsuperscript{32} The FTC’s quality expert argued that there was doubt as to whether the proposed consolidation of services would take place. In addition, he argued, based on a large body of research literature, that a positive relationship between procedure volumes and patient outcomes only exists for some procedures, and that these were not the procedures that the merging parties had claimed they would consolidate post-merger.\textsuperscript{33} He also argued that the kinds of organizational changes that promote clinical integration mostly involve combinations of complementary providers, meaning different kinds of providers, such as physicians from different specialties, joining together to coordinate care. The proposed merger, in contrast, was a combination of substitute providers, meaning two full-service hospitals that do substantially the same things. This undermined the assertion that valuable clinical integration would result from the merger.\textsuperscript{34}

29. The district court rejected the parties’ quality claims.\textsuperscript{35} As to their first assertion, the court expressed doubt that the merger would result in increased procedure volumes, and also that the procedures in question were of the type for which a volume/outcome relationship had been established in the research literature.\textsuperscript{36} The court also rejected the second assertion, concluding that the parties’ assertions about clinical integration were “contradicted by [the] defendants’ own financial projections, which show that defendants expect to remain profitable even as healthcare reforms begin to take effect.”\textsuperscript{37}

30. As the above examples indicate, the quality claims made by merging hospitals in the FTC’s litigated cases have not been found to be convincing. That is, the parties have not succeeded in showing that the mergers were likely to result in a merger-specific net increase in clinical quality,\textsuperscript{38} and so there has been no need to weigh quality improvements against price increases. This is largely a product of the FTC’s

\textsuperscript{31} Id.
\textsuperscript{33} Id. at 41.
\textsuperscript{34} Some healthcare mergers do involve some degree of combination of complementary providers. It is important to note that such mergers will not necessarily result in quality efficiencies, and any such efficiencies may not be merger-specific.
\textsuperscript{35} The Rockford case did not advance beyond the Preliminary Injunction (PI) stage, and a PI proceeding is not the same as a full trial on the merits. A PI proceeding is intended to determine whether the plaintiff’s case is strong enough to warrant enjoining the merger pending a full trial on the merits. The court’s findings in such a proceeding therefore do not have the same significance as findings following a full trial. However, the parties abandoned the transaction following the PI decision, and so that decision was the only judicial decision in the matter.
\textsuperscript{37} Id. at 45.
\textsuperscript{38} Recall that the net effect on quality, which is what matters for the antitrust analysis, is the sum of the quality effect of the lost competition, plus the effect of any quality efficiencies.
exercise of its prosecutorial discretion; cases in which there were credible claims of a likely quality benefit were less likely to be taken to court.

31. However, it is possible that at some point there will be hospital merger cases that reduce price competition where the evidence will more persuasively support the assertion that they will cause a net increase in quality. As such, the agencies and courts may be faced with the need to evaluate those quality increases against the price effects of the merger.

7. Conclusion

32. Just as consumers can benefit from lower prices produced by vigorous competition, so too can they reap the rewards of enjoying higher quality products and services. Conversely, they can be harmed by reductions in quality or increases in quality-adjusted prices. Prices frequently receive more of the attention of competition law enforcers and courts in discussions of the competitive environment. Quality can be manifested in a variety of ways across markets, and it is not always as easy to quantify as prices, but it is no less important. This paper identified a number of instances where the Agencies and courts have explicitly considered the impact of various kinds of conduct on quality-related competition.