

Economics at the FTC: Office Supply Retailers Redux, Healthcare Quality Efficiencies Analysis, and Litigation of an Alleged Get-Rich-Quick Scheme

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Abstract: We discuss in this essay three of the matters on which economists in the Bureau of Economics (BE) at the Federal Trade Commission (FTC) have worked this past year. BE revisited familiar ground in the first matter, a proposed merger of office supply retailers. The second part of the essay considers efficiency claims in health care mergers, with focus on the acquisition of a physician group by a health care system in Idaho. The final part of the essay discusses empirical work that was undertaken by the Bureau to investigate claims made by marketers of an alleged get-rich-quick scheme.

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I. Introduction

A. The Bureau of Economics

The Bureau of Economics (BE) at the U.S. Federal Trade Commission (FTC) provides economic analysis to support the FTC's strategic goals of protecting consumers and maintaining competition (<http://www.ftc.gov/about-ftc/bureaus-offices/bureau-economics>). This is accomplished by the more than 80 Ph.D. economists, several financial analysts, and research and support staff who comprise the BE staff.

BE plays three major roles at the FTC: First, BE provides economic analysis to the Commission on enforcement matters in the competition and consumer protection areas. Second, BE conducts research on issues that are relevant to the agency's mission. Third, BE works on policy and advocacy issues, usually in concert with the Office of Policy Planning.¹

On law enforcement matters, BE staff typically work in teams with attorneys from the Bureaus of Competition and Consumer Protection. However, BE provides independent assessments and recommendations to the Commission. While antitrust enforcement is a key part of the agency's mission, consumer protection is a very large, and growing component of the FTC's activities.

In terms of volume, most of our resources are devoted to evaluations of pending mergers and acquisitions (M&As), which are largely, but not exclusively, driven by the notification requirements of the Hart-Scott-Rodino (HSR) Act. Consumer protection activities having to do with deceptive or unfair business practices harming consumers also occupy much of the Bureau's attention. In addition, we also devote substantial resources to investigations of alleged anticompetitive conduct (e.g., how Google displays its search results; pay-for-delay deals between branded pharmaceutical manufacturers and would-be generic entrants), and competition policy efforts (e.g., developing a policy for evaluating "accountable care organizations" [ACOs] in the health care sector).

¹ See, for instance, a policy paper on the regulation of nurse practitioners (FTC, 2014b) and a letter to the Centers for Medicare & Medicaid Services about the potential anticompetitive impact of proposed modifications of Medicare Part D rules, http://www.ftc.gov/system/files/documents/advocacy_documents/federal-trade-commission-staff-comment-centers-medicare-medicaid-services-regarding-proposed-rule/140310cmscomment.pdf.

During fiscal year 2013, U.S. merger and acquisition activity declined slightly, with 1,326 transactions that were reported to the U.S. Department of Justice (DOJ) and the FTC, as compared to 1,429 in fiscal year 2012.² M&A activity has been highly cyclical: Over the past decade, these figures have ranged between 716 (in 2009) and 2,201 (in 2007). The vast majority of proposed mergers are cleared within the “waiting period” that is imposed by the HSR Act (usually 30 days; 15 for cash-tender offers or bankruptcy sales).

During FY 2013, the FTC opened 25 formal merger investigations, and brought 23 merger enforcement actions (some of which were initiated in preceding years). Sixteen of these actions involved consent orders (permitting the transaction to proceed, albeit with modifications); two transactions were abandoned or restructured during the investigations; the Commission filed a complaint in federal court to permanently enjoin one transaction; and four transactions prompted administrative litigation.

The FTC’s original enabling legislation in 1914 contains a mandate to conduct research,³ which BE fulfills by undertaking significant research activities throughout the year. This can take the form of Commission studies of important phenomena,⁴ studies that are requested by Congress,⁵ and studies that are initiated by the Bureau or independently by the staff (<http://www.ftc.gov/policy/reports/policy-reports/economics-research>). In addition to economists’ publishing frequently in academic journals, we also have a working paper series.⁶ We sponsor and disseminate mission-related research through seminars and conferences. In November 2013, we hosted our sixth annual Microeconomics Conference.⁷ Topics included the economics of privacy; the effects of Internet-based advertising on search and product quality; and structural models of firm entry and conduct. Plans are well underway for the seventh annual conference, to be held in October 2014.⁸ We also have an active seminar series that features academic and government researchers.

² Federal Trade Commission & U.S. Department of Justice (2014).

³ FTC Act, 15 U.S.C. § 46(f)

⁴ Including an ongoing study of Patent Assertion Entities, <http://www.ftc.gov/news-events/press-releases/2013/09/ftc-seeks-examine-patent-assertion-entities-their-impact>, and a study of self-regulation in the alcohol industry (FTC, 2014a).

⁵ For example, a study of authorized generic drugs (FTC, 2011) and a study of the use of credit scores in the pricing of automobile insurance policies (FTC, 2007).

⁶ See <http://www.ftc.gov/policy/reports/policy-reports/economics-research/working-papers>.

⁷ See <http://www.ftc.gov/news-events/events-calendar/2013/11/sixth-annual-microeconomics-conference>.

⁸ Check <http://www.ftc.gov/news-events/events-calendar/2014/10/seventh-annual-federal-trade-commission-microeconomics> for the program.

B. This Year's Article

In this year's installment of our annual article in the *Review of Industrial Organization's* antitrust and regulation issue, we highlight the work done by BE on two merger investigations and a consumer protection case. The antitrust investigations focused on a merger of office supply retailers and the acquisition of a physician group by a health system. The consumer protection matter involved the sale of training material that purported to help consumers make large profits in financial transactions, which in reality were not achieved by the vast majority of customers.

The section on the Office Depot and OfficeMax merger provides an interesting opportunity to compare the current competitive landscape for the sale of office supplies to that which existed more than 15 years ago when the FTC successfully challenged the merger of Staples and Office Depot. Although many of the empirical techniques used in the previous investigation again proved useful and informative, the conclusions reached were significantly different due to the evolving nature of competition in the relevant market.

Antitrust investigations often focus on the impact of a merger on prices in the relevant market. However, the second section of this article considers instead the impact that mergers can have on the quality of services. Specifically, it discusses the FTC's approach to analyzing the effect that mergers in healthcare markets can have on the quality of care that is provided by the merging parties, which is clearly an important factor that affects consumer welfare. Although the standards of evidence are no different than those that are used to analyze efficiency claims in any merger, the mechanisms for potentially achieving the efficiencies in healthcare settings are unique, and so the analysis must be tailored accordingly. This section starts with a general exposition of that analysis, and then discusses its application to the acquisition of the Saltzer Medical Group by the St. Luke's Health System in Idaho.

The final section discusses the economic analysis that was conducted by the FTC that refuted a particular claim made by the purveyor of an alleged get-rich-quick scheme. The defendants, the Dalbey Educational Institute and associated individuals, were charged with deceptively marketing instructional materials that purported to teach consumers how to find, broker, and earn commissions on seller-financed promissory notes or cash flow notes. When presented with evidence that very few of their clients were eventually able to broker these notes or earn commissions, they offered the creative defense that these individuals suffered from the same sort of behavioral biases that cause many individuals to buy gym memberships that

subsequently go unused. This section describes the evidence that BE economists developed to refute this claim in court.

II. Office Depot / OfficeMax

In 1997, the FTC successfully challenged the proposed merger of Staples and Office Depot (ODP), which, along with OfficeMax (OMX), comprised the office supply superstore (OSS) product market that the FTC successfully alleged in that case (Ashenfelter, et al., 2006).

In 2013, the proposed merger of ODP and OMX would again combine two of the largest office supply retail chains and two of the largest suppliers of office products to businesses in the U.S. In both of these broad segments, ODP, OMX, and Staples supply a range of products that includes: office supplies (e.g., legal pads, tape, staplers, pens, binders, and file folders); printer and copier paper; ink and toner; office furniture; technology products; custom print and copy offerings; and janitorial, sanitation, and break room supplies. Locally and nationally, ODP, OMX, and Staples supplied these products directly to individual consumers and small businesses through their retail stores and to institutions and businesses in a variety of ways that include contractual arrangements.

Much had changed since 1997. In addition to an increased presence of other retailers, such as Wal-Mart and club stores, office supplies could be obtained from the three OSS retailers online, and through other online suppliers such as Amazon. Nonetheless, the traditional bricks-and-mortar competition between OSS retailers that was the focus of the FTC's challenge in Staples/ODP might still have been significant.⁹

In this section, we summarize the empirical analyses conducted by the FTC in assessing the likely competitive effects of the proposed merger in the bricks-and-mortar retail segment. Although confidentiality restrictions prevent us from reporting specific coefficient estimates, the model specification and qualitative discussion of the results below still provide a thorough roadmap of BE's analysis of the empirical evidence in this case.

Similar to the analyses conducted by the FTC's econometric expert in *Staples*, and in subsequent matters such as *Whole Foods*,¹⁰ we used reduced-form regression models to estimate

⁹ See, for example, a *Wall Street Journal* study from December 12, 2012, that suggested Staples' online prices were lower when the requesting computer was located near an ODP or OMX retail store, Valentino-Devries (2012)

¹⁰ See Murphy (2007).

the relationship between ODP and OMX margins and prices and the number of competitor stores within given drive-time thresholds of the parties' stores.¹¹ The estimated relationship was then used to predict the effect of the hypothetical closure of all OMX(ODP) stores on margins and prices of ODP(OMX). Again, following *Staples*, we estimated both panel data and cross-sectional regressions.¹² We also used different dependent variables, including store/department-level margins that were constructed from data at the stock-keeping unit (SKU) and department levels; store/SKU-level prices; and store-level price indices that were constructed by the parties.¹³

We applied the regression models to various combinations of ODP and OMX stores and products. While the baseline models included all ODP and OMX stores, we also estimated the models using two subsets of stores: First, we limited the set of stores by excluding any ODP (OMX) store that did not experience any Staples or OMX (ODP) entry or exit over the sample period. The rationale was that, because demand conditions in these two types of areas may have been fundamentally different, stores in areas that experienced no competing OSS entry or exit over the entire sample period may have been poor controls for stores in areas that did experience such entry or exit.

Second, we limited the set of stores by excluding any ODP (OMX) stores that did not have a Staples store within 30 minutes at any point in the sample period, as the effect of OMX (ODP) entry/exit events on ODP (OMX) prices and margins might have depended on whether a Staples store was proximate.

We considered four sets of products: The baseline models limited the analyses to products in the "consumable office supplies" category, which we defined as office supplies, copy paper, and ink/toner. We also considered three subsets of products for which competitive conditions may have been meaningfully different. First, we excluded copy paper, ink, and toner SKUs, since the degree of competition from mass merchants, club stores, and the Internet might

¹¹ See Ashenfelter, et al. (2006) for a summary of the analyses that were conducted in *Staples*. The approach has the useful attribute of not requiring an a priori market definition. The set of stores included on the right-hand side need not be limited to those within any purported product market.

¹² See Ashenfelter, et al. (2006) for a description of the relative strengths of these approaches.

¹³ Intuitively, there is likely meaningful interaction between the brick-and-mortar and online retail segments. While our analyses did not explicitly model this interaction, the potential effect of online competition nonetheless was captured in our reduced-form results. For example, if consumers viewed brick-and-mortar and online suppliers as highly substitutable, this would have been reflected in our results since margins and prices would be less responsive to the entry/exit of competing brick-and-mortar stores.

have been systematically different for these products. Second, we excluded SKUs that were identified by the parties' documents as likely to be price-sensitive. Third, we excluded SKUs that were identified by the parties as being priced on a national basis.

A. Data

The data were primarily provided to us by the parties in conjunction with the FTC's investigation. These included net sales and cost information at the store department/month level for the years 2008-2012, as well as net sales, units sold, and cost of goods sold (COGS) at the store/SKU/week level for the years 2008-2012. We also utilized data on store locations and entry/exit dates for the following firms: ODP, OMX, Staples, Wal-Mart, Target, Costco, Sam's Club, and Best Buy.

In the SKU-level analyses, we aggregated the weekly store/SKU-level data up to 66 four-week periods.¹⁴ For each store/SKU/four-week period combination, we defined the unit price as the ratio of total net sales to total units sold, and unit cost as the ratio of total cost-of-good sold to total units sold.

In the margin analyses, we defined the margin using both the SKU-level data and the department-level data. The department-level data included additional fields that contained information on variable costs, and, therefore, were appropriate to include in the definition of margin. However, the department-level data did not contain the level of refinement in product categories that were observed in the SKU-level data.¹⁵ Therefore, we also constructed margins using the SKU-level data. This approach permitted an analysis of margins defined on a wide variety of product categories and sub-categories. However, the margins constructed from the SKU-level data likely understated variable costs because the data contain information on COGS, but not other components of variable cost. Because of the added potential for omitted variable

¹⁴ We aggregated the weekly SKU-level data for two reasons: First, our SKU-level analyses involved estimating tens of thousands of fixed-effects panel regression models under the time constraints imposed by the HSR Act. Aggregating to four-week periods significantly reduced the computational burden. Second, aggregating to four-week periods reduced the number of missing observations in the price/cost time series within SKU-store combinations. Of course, the aggregation may have made the estimated treatment effects less precise. In addition, the aggregation may have engendered a bias towards zero in our results since some prices from the post-entry/exit period may have been averaged into the pre-entry/exit period. However, since, as discussed below, we controlled for the four-week period that captured the entry/exit event, as well as the preceding four-week period, we believe that the likelihood of meaningful bias due to aggregating to the four-week period is minimal.

¹⁵ For example, we can analyze margins using only a single product category: office supplies, from which we cannot separate copy paper. Moreover, we cannot separately analyze margins for all office consumables, including ink/toner, because those products are not separated from other products in the technology department in the department level data.

bias, we limited the analyses using margins constructed from the SKU-level data to the panel data regression models.

B. Regression Models

Our regression models were similar to those estimated in *Staples*. Let y_{kt} denote the logarithm of the margin (or price) for ODP(OMX) store k in period t , and N_{jkt}^d denote the number of stores of competitor j within d minutes from ODP(OMX) store k in period t . We specified the panel data regression model based on 0-5, 5-15, and 15-30 minute drive-time thresholds around store k as

$$(1) \quad y_{kt} = \beta_k + \beta_t + \sum_{d \in D} \sum_{j \in J} \beta_j^d (N_{jkt}^d)^{1/2} + \sum_{j \in J} \gamma_j 1[N_{jkt}^{30} \neq N_{jkt-1}^{30} \text{ or } N_{jkt}^{30} \neq N_{jkt+1}^{30}] + \epsilon_{kt}$$

where β_k denotes a fixed-effect for ODP store k , β_t denotes a fixed-effect for period t , J denotes the set {OMX(ODP), Staples, Wal-Mart, Target, Costco, Sam's Club, Best Buy}, D denotes the set {5, 15, 30}, and ϵ_{kt} denotes the error term of the regression model.¹⁶ The term $\beta_j^d (N_{jkt}^d)^{1/2}$ captures the effect of the number of stores of competitor j within d minutes of ODP(OMX) store k in period t on ODP(OMX) store k 's price (or margin).^{17,18} We also added an indicator variable for the period in which an entry/exit event occurs as well as the preceding period. This accounted for the possibility of promotional activities on the part of store j about the time that a competing store enters or exits. We restricted the coefficient on this indicator variable, γ_j , to be equal for any entry/exit event up to 30 minutes from the store, but we did permit this coefficient to vary across competitors. Finally, the SKU-level price models also controlled for the average COGS.

Given the estimates of the model parameters, we estimated the predicted percent change in ODP price or margin under the hypothetical of closing all OMX stores by taking a weighted average of

¹⁶ Throughout all of our analyses, we constructed standard errors and p-values of our estimates from an estimated covariance matrix that allows for arbitrary forms of correlation in the error term within stores, across time periods.

¹⁷ We also estimated regression models that specified a single marginal effect for entry/exit across a 30-minute threshold. However, the implied parameter restrictions were generally rejected by the data.

¹⁸ In *Staples*, the FTC's econometric expert captured the effect of local competition using the natural log of the number of competitors, as opposed to the square root. Because the natural log is not defined at zero, an indicator variable was added for the outcome in which there were no local stores of a given competitor. However, there was no within-store variation in this indicator variable in some of our specifications. Under this circumstance, the effect of closing all OMX (ODP) stores on ODP (OMX) prices or margins could not be predicted. Since the square root function is defined at zero, it does not require this added indicator variable. Hence, we adopted the square root specification here.

$$\exp\left\{-\sum_{d \in D} \hat{\beta}_{OMX}^d (N_{OMXkt}^d)^{1/2}\right\} - 1$$

where the average was taken across ODP stores in the last year of the data, and the weights were based on store net sales. We included only ODP stores that would be affected under the hypothetical closure. That is to say, we excluded from the weighted average any ODP store k for which $N_{OMXkt}^{30} = 0$ during the last year of the data.

We used two specifications in our cross-sectional analyses: First, we modified (1) by eliminating the store-level fixed effects and limiting the sample to the last three months of the data.¹⁹ We estimated the effect of OMX (ODP) closures on ODP (OMX) margins using two store populations: ODP (OMX) stores that had a Staples store within 30 minutes, and ODP (OMX) stores that did not have a Staples store within 30 minutes.

While this cross-sectional model was very similar to the model utilized in the panel studies, it did not provide a straightforward answer to the question of how ODP and OMX margins vary in the presence of one, two, and three different OSSs in a geographic area, controlling for the level of non-OSS competition. To address this question directly, we estimated a second cross-sectional model in which we transformed the explanatory variables for ODP, OMX, and Staples into indicator variables that were defined on whether there was at least one ODP (OMX, Staples) store within 30 minutes. In addition, in examining ODP margins, we interacted the OMX and Staples indicator variables, and used an analogous interaction in examining OMX margins. Hence, the question of how ODP and OMX margins varied in the presence of one, two, and three different OSSs in a geographic area, controlling for the level of non-OSS competition, could be answered directly from the regression coefficient estimates in this specification.

C. Results

Our panel study analyses produced no evidence of a systematic relationship between ODP (OMX) prices and margins and OMX (ODP) entry/exit events when all ODP (OMX) stores were included in the analysis, and when we excluded any ODP (OMX) store that did not experience any Staples or OMX (ODP) entry or exit over the sample period. However, our panel analyses initially did suggest that there may have been such a relationship for ODP and OMX

¹⁹ We also investigated larger time frames and found similar results.

stores that were not within 30 minutes of at least one Staples store. But further analysis revealed that these results were not robust, primarily because there were an extremely small number of closures by the merging parties for this set of stores. We discuss our results using the predicted effect of OMX closures on ODP margins as constructed from the SKU-level data for two product categories: all office consumables, and office consumables excluding copy paper, ink, and toner.

When all ODP stores were included, we found no meaningful relationship in either product category. When the sample was limited to ODP stores that did not have a Staples store within 30 minutes, we found an economically and statistically significant relationship in both product categories. Consistent with the intuition for excluding copy paper, ink, and toner SKUs, the predicted effect on ODP margins was larger when these SKUs are excluded.

However, further analysis revealed that this predicted effect was identified from a large number of treatment events that were all generated in a single large metropolitan area where only one of more than ten OMX stores closed. We also found that the results were highly sensitive to the omission of one of the treated ODP stores. When expanding the ODP store population to include stores that had a Staples store within 20-30 minutes, and dropping the aforementioned ODP store, we again found no meaningful relationship for all consumables, and found a significantly lower effect when excluding copy paper, ink, and toner SKUs, although the prediction was still economically significant.

Our SKU-level price regression analyses yielded similar results. However, the SKU-level analyses also revealed that results were largely driven by very large price increases for a modest number of SKUs that occurred several months after the OMX closure. Given the modest reduction in competition that resulted from this closure (one OMX store, out of more than ten), the estimated price effects seemed suspiciously large when compared to the estimated effects from other closures in markets with far fewer OMX stores.

Our conclusion was that, while there was a significant price increase for many SKUs at these ODP stores around the time of the closure, it was difficult to conclude that these predicted effects reflect a causal relationship between the number of OMX stores and ODP prices. Rather, it was more likely that the observed price changes were driven largely by an unobserved factor that was correlated with the number of OMX stores in that area.

Given the limited number of identifying entry/exit events and the instability of the panel study results, we turned to the cross-sectional analyses. As discussed in Ashenfelter, et al.

(2006), cross-sectional analyses may be useful particularly in cases in which there are few identifying events. However, cross-sectional analyses are more likely to suffer from omitted variable bias, and this may be particularly true when making comparisons across widely dispersed geographic areas, as is the case here.

With that caveat in mind, we analyzed a cross-sectional specification using ODP and OMX margins that were constructed from the department-level data as the dependent variable. This model directly estimated differences in ODP and OMX margins in the presence of one, two, and three different OSSs in a geographic area, controlling for the level of non-OSS competition. Consistent with our panel study results, we found no relationship between OMX margins and the extent of OSS competition. We also found that ODP margins were lower when either OMX or Staples was present; but conditional on the presence of one, adding the other did not meaningfully affect ODP margins. The cross-sectional results were also consistent with our panel study results insofar as we found some, although not robust, evidence that ODP margins responded to OMX entry/exit only if Staples was not close by.

Using the predicted percent changes in margins from this analysis, under the assumption of constant marginal cost, the predicted percent changes in price were estimated using the formula:

$$\% \Delta P = \% \Delta M \frac{M_0}{1 - M_1},$$

where P denotes price and M_0 and M_1 denote the before-closure and after-closure margins, respectively. For instance, we employed this formula to generate a predicted price difference between ODP stores that did not have any OSS competitors within 30 minutes and ODP stores that had at least one OMX store within 30 minutes.²⁰

We concluded that despite the presence of some ambiguity in our results, they did not support a recommendation to the Commission to challenge the proposed merger. Given the lack of robustness in the results from the panel study analyses, and the aforementioned potential difficulties associated with drawing inferences from cross-sectional analyses, we concluded that our results did not provide a sufficient basis for deciding that the proposed merger was likely to be anticompetitive. We note also the contrast between these results, and the findings from

²⁰ Note that we did not apply this formula to the predicted margin changes constructed from the SKU-level data since, as described above, those margin levels were likely measured with significant error.

Staples. In that case, the panel study and cross-sectional analyses yielded similar economically and statistically significant results, and were consistent with the other types of evidence.²¹

Finally, we note that our results were based on the predictions of the likely effects of the hypothetical closure of all ODP (OMX) stores on the prices or margins of OMX (ODP). This approach, while useful for identifying the potential for concern that the proposed merger may be anticompetitive, is not a merger simulation. Hence, it does not predict what is likely to occur under the merger, and, absent evidence that the merged entity will likely close all stores of one banner or the other, these analyses may overstate the likely effects of the merger on prices and margins.

III. Quality Efficiencies Analysis in Health Care Markets

In recent years, we have described the Bureau of Economics' approach to analyzing product markets and competitive effects in mergers of hospitals and health care providers.²² These analyses mostly focus on price; but in health care markets, the quality of patient care is also an important part of the complete competitive analysis. Clearly, the quality of care that is received by patients has a large impact on welfare in the health care sector. It has become common for merging health care providers to assert that the merger will improve quality. In this year's discussion, we briefly describe the general framework underlying our analysis of efficiency justifications and quality improvement claims in health care provider mergers.

We then discuss in greater detail our efficiencies analysis in the FTC's recent challenge of the acquisition of the Saltzer Medical Group by St. Luke's Health System.²³ The analysis of the St. Luke's case is extremely important because the merging parties' defense of the transaction was that it was necessary to achieve integrated care, as promoted by the Affordable Care Act (ACA),²⁴ including a move away from the traditional fee-for-service care model to a value-based care model. Since the District Court ruled that the transaction was anticompetitive, the parties, and many commentators, have complained that the federal government is providing conflicting

²¹ See Ashenfelter, et al. (2006). The econometric evidence in *Staples* was consistent with the parties' documents with regard to pricing strategies, the parties' marketing materials, and the testimony of non-OSS vendors.

²² See Farrell, et al. (2011) and Carlson, et al. (2013).

²³ *Federal Trade Commission v. St. Luke's Health System, Ltd.*, Findings of Fact and Conclusions of Law, Case No. 1:13-CV-00116-BLW (D. Idaho Jan. 24, 2014); *Alphonsus Medical Center – Nampa, Inc., et al. v. St. Luke's Health System, Ltd.*, 2014-1 Trade Cas. (CCH) P78,667.

²⁴ See Pate (2013).

signals to health care providers: encouraging greater coordination of patient care through the ACA, yet enforcing antitrust laws against firms' efforts to improve care coordination through consolidation. We hope that this discussion demonstrates that there need be no conflict between health care reform and competition law, and that both are necessary to lower health care costs and improve patient care.²⁵

A. Key Factors in the Analysis of Quality Efficiencies

According to the 2010 DOJ-FTC Horizontal Merger Guidelines,²⁶ the agencies will take into account efficiencies if and only if the claimed efficiencies are verifiable, non-speculative, and merger-specific. These criteria are the same whether or not the merger involves health care providers.

In mergers not involving health care providers, the asserted efficiencies usually involve reductions in production costs. In mergers involving health care providers, the parties frequently assert that the merger will improve the quality of patient care. However, evidence of the direction and magnitude of the association between costs and the quality of care is inconsistent.²⁷ In addition, the evidence, both theoretical and empirical, does not find support for the notion that health care mergers, especially hospital mergers, lead to higher quality outcomes.²⁸

In general, a merger will lead to improved quality only if it leads to an increase in the profitability of producing quality. This can occur if the merger increases the revenue received from producing higher quality, or if the merger reduces the costs of producing quality. Only the latter is a valid efficiency argument under the merger guidelines.

Romano and Balan (2011) provide a detailed approach to analyzing efficiency and quality improvement claims of health care providers. They focus on hospital mergers, but the analysis can be applied to other provider combinations. In this section, we identify the two most likely sources of quality improvement, and discuss how to evaluate whether a merger is likely to create these improvements. A merger might improve quality if it extends a provider's clinically superior quality to its merger partner, or if it helps the merged entity attain economies of scale that can lower the costs of producing quality.

²⁵ See, e.g., Gaynor (2014a and 2014b), Feinstein (2014), and Brill (2014).

²⁶ US Department of Justice and Federal Trade Commission (2010).

²⁷ See Hussey, et al. (2013).

²⁸ Gaynor (2007), Vogt and Town (2006), and Gaynor and Town (2012).

A common efficiency justification for health care mergers is that the acquisition will allow a higher-quality acquirer to improve the quality of a poorly performing acquired provider. For this to be a credible efficiency claim, two things must be true: (1) one of the providers must have demonstrated practices or institutions that produce superior quality; and (2) these practices must be easily exported to the other provider to enable that provider to achieve these quality improvements more easily than it could have absent the merger.

The first step in the analysis of these claims is to establish whether one of the providers is actually clinically superior to the other, for if there are no differences in quality pre-merger, improvements are unlikely post-merger.²⁹ Since numerous quality measures are extensively tracked by hospitals, ample empirical evidence can be evaluated to judge the likelihood of differences in provider quality. In most mergers, we look to see if one of the providers has significantly better measured quality, both on an absolute basis, and adjusting for patient population risks.³⁰

If we can establish the requisite difference in pre-existing quality, the analysis then proceeds to the second step: determining if the conditions exist for the higher-quality practices to be implemented by the lower-quality provider. The likelihood of an improvement resulting from a transmission of clinical superiority is greater when specific quality-improving measures have been adopted by the acquiring provider, and when there are concrete plans to export them following the merger. If there is evidence of quality improvements (leading to superior performance, not just relative quality gains) that have followed the adoption of specific practices or protocols, the efficiency justification is more likely to be verifiable and non-speculative. Similarly, if the acquiring firm has been able to improve the quality of other providers post-merger, this will be an important part of the analysis.

Once quality superiority is established, merger-specificity must still be demonstrated. In other words, it must be shown that the merger is necessary to achieve the improvements: i.e.,

²⁹ See Romano and Balan (2011) for the retrospective quality analysis performed by Dr. Romano as an expert for the FTC in its successful retroactive suit against the Evanston–Northwestern hospital merger: *In re Evanston Northwestern Healthcare Corp.* FTC No. 9315 (August 6, 2007). See also the prospective merger analysis in the FTC’s administrative complaint in Inova Health System Foundation–Prince William Health System, which asserted .at ¶35: “Currently, the quality of PWHS’ services is comparable to, and at times superior to, the quality of Inova’s services, as measured by numerous objective quality criteria. Accordingly, Inova is unlikely to improve PWHS’ quality of service or to help generate other efficiencies sufficient to offset the Merger’s anticompetitive effects.” <http://www.ftc.gov/sites/default/files/documents/cases/2008/05/080509admincomplaint.pdf>.

³⁰ See Romano and Balan (2011). It is important to look at both versions of statistics because differences or changes in coding of patient co-morbidities can make comparisons of risk-adjusted metrics misleading.

they could not be achieved (at the same cost) through other means (e.g., a contract that preserves competition between the parties). Quality standards and evidence-based best-practice guidelines are widely available, so evidence that links the specifics of the merger to projected improvements is critical.³¹ Once again, improvements that have resulted from past mergers can be valuable evidence of the specificity of likely efficiencies. For example, geographic proximity, which allowed the physical presence of personnel from the superior provider to improve care, might demonstrate the likelihood of merger specificity claims.

Potential merger efficiencies which result from economies of scale in the provision of services and quality can also be investigated directly. One source of scale efficiencies can come from the use of equipment that has such high fixed costs (and low marginal costs) that smaller providers might not utilize it, but a larger provider or system would (and that it would be uneconomic for the smaller providers separately to purchase the equipment services from a third party). It is possible that the merged firm could become large enough to invest in and utilize this equipment, or that the larger of the two firms could extend to the other the benefits of the existing investment. Greater provider size or utilization can have a large effect on quality only if the economies of scale are correspondingly large *and* if the interventions that provide large economies of scale are highly clinically important. A general claim that substantial patient volumes are necessary to reduce costs or improve care is not likely to be considered convincing evidence.

Scale economies sometimes can arise for surgical procedures that exhibit a volume–outcome relationship, such that repetition of the procedure generates better clinical outcomes for individual surgeons or facilities. Clinical evidence suggests that such scale effects appear to be strongest for certain high-risk, technically complex surgical procedures.³² By consolidating such procedures at fewer hospitals, or by sending experienced personnel from one hospital to another, a system potentially can reap the benefits of increased scale. However, if the consolidation is for a procedure that does not show improved outcomes that are associated with volume, or if individual surgeons continue to do the same number of procedures as before the merger, a merger that combines the service into the same facility is less likely to achieve the claimed cost efficiencies and quality benefits.

³¹ See, for example, the National Quality Forum’s endorsed quality measures for improving the quality of care.

³² See Halm, et al. (2002). Economists have also looked at this; see Ho, Town, and Heslin (2007), Gowrisankaran and Town (2003), and Gaynor, et al. (2005).

B. Application to a Specific Acquisition: St. Luke's Health System

Many of these issues arose in the FTC's recent challenge of a physician group by a health system in Idaho (*Alphonsus Medical Center – Nampa, Inc., et al. v. St. Luke's Health System, Ltd.*, 2014-1 Trade Cas. (CCH) P78,667). St. Luke's proposed merger would have joined the largest health system in the state, already including seven hospitals and more than 400 employed physicians, with Saltzer, the largest multispecialty physician group in the state. The FTC's complaint alleged that this combination would lead to a significant increase in concentration in the market for adult primary care services in Nampa, Idaho, and would provide St. Luke's with power to raise prices for these services.

While it challenged the FTC's definition of the relevant product market and the FTC's claims about the merger's likely competitive effects, St. Luke's key defense was that the merger was necessary to provide integrated care and achieve the "triple aim" of better quality health, lower costs, and better population health.³³ St. Luke's asserted that the merger would improve its quality and reduce its costs by implementing evidence-based medicine through its entire system; by coordinating patient care using a single electronic medical record ("EMR"); and by enabling St. Luke's to enter into full risk-based service contracts with payers. But at its core, St. Luke's argument was that there was only one way to achieve integrated patient care: by employing Saltzer physicians and creating a fully financially and vertically integrated health system.

Notwithstanding St. Luke's assertions, employing physicians is not the only way to change their incentives to provide high-quality integrated patient care. An integrated delivery system (IDS), especially a financially integrated one, does not guarantee integrated patient care. Instead, integrated care is provided by a continuum of collaborative arrangements by which health care providers seek to achieve specific shared goals or purposes through various economic, non-economic, and clinical relationships. The World Health Organization (WHO) has a working definition of integrated health care that simplifies the idea to "organization and management of health services so that people get the care they need, when they need it, in ways that are user-friendly; achieve the desired results and provide value for money."³⁴

A broad range of financial arrangements and organizational structures can allow providers to satisfy these principles. At the one end of the organizational structure spectrum are

³³ See Berwick et al. (2008).

³⁴ See World Health Organization (2008).

the financially integrated models that St. Luke's targeted, like Kaiser Permanente and the Mayo Clinic. But full financial integration does not guarantee highly integrated care, as the history of the Veteran's Health system clearly shows.³⁵ An example of a less financially integrated, but still very clinically integrated system is the Advocate Health System in Illinois, which includes a significant number of independent providers. Innovations in organizational structures that are aimed at producing integrated patient care are still evolving, as the multiplicity of forms and models of the ACA's accountable care organizations (ACOs) show. The ACO evidence to date has not shown that a particular organizational structure of ACO – hospital based or otherwise – has proven the most successful at providing high-quality, cost-efficient patient care.³⁶

St. Luke's has experience working with independent, non-financially integrated physicians. St. Luke's also uses independent physicians as some of its medical directors. These medical directors are responsible, in part, for improving the quality of care by implementing and developing evidence-based best practices and standardizing processes of care for the clinical areas for which they are responsible. More importantly, senior St. Luke's executives testified that working with independent providers was necessary to achieve its integrated care vision.

However, St. Luke's witnesses sought to deflect the necessity to work with non-financially integrated physicians by claiming that Saltzer was essential to developing a core group of primary care providers that would be the innovators of best practices that would be extended to wider use. Nonetheless, the witnesses did not agree on the number of core providers, and no empirical literature demonstrates how many are necessary. Since St. Luke's has a significant number of existing employed physicians, the development of a core of providers was not a merger-specific efficiency.

There was also no evidence that there was a significant difference in the quality of care between Saltzer's and St. Luke's providers. No evidence was presented showing differences in prescribing or testing habits, or other differences in resource utilization. Had St. Luke's demonstrated improvements in the many physician group practices it had recently acquired, this would have been a significant factor in the analysis. While the parties did not provide convincing evidence that financial integration would improve quality and costs, the FTC's economic expert

³⁵ See Jha, et al. (2003).

³⁶ See L&M Policy Research and Partners (2013). In the executive summary, the authors state that "The 8 (of 32) ACOs that reduced spending growth varied in geographic location, size, organizational structure, and average Medicare spending in their markets, suggesting that ACOs can achieve lower spending growth under a range of market conditions and organizational structures."

(Professor David Dranove) analyzed this issue. He conducted a differences-in-differences expenditure analysis of previous St. Luke's physician acquisitions, and found little evidence that past mergers had reduced health care spending. In addition, no evidence presented at trial suggested that St. Luke's had superior quality that could be passed on to an integrated Saltzer. Thus, there was little evidence to support a merger-specific efficiency based on quality differences.

St. Luke's also claimed that it would extend its Epic EMR system to Saltzer as a result of the merger. A single centralized EMR can help to coordinate patient care, but St. Luke's claim that its ability to extend to Saltzer its Epic EMR was not an efficiency. Saltzer already had a different EMR, and switching to another EMR would likely yield disruption to work flow during a transition period. In addition, because St. Luke's recognized that including more providers in its system could have improved patient care more widely in Idaho, it was developing an Affiliate EMR program to help independent practices get access to Epic. Saltzer could have taken advantage of that program if it wanted to switch to Epic. The merger would also not increase the speed of the Epic roll-out to all St. Luke's providers, as some of the system hospitals were years away from transitioning.

Even the same EMR might not have been necessary to provide integrated care if there were another source of centralized patient care data. An easily accessible data warehouse or health information exchange can allow providers to share important data -- such as radiology and test results -- without providers' being on the same EMR. The Health Information Technology for Economic and Clinical Health (HITECH) Act has provided the funding for local data exchange initiatives, including support for the Idaho Health Data Exchange (IHDE).

The IHDE's development also weakens the efficiency claim. St. Luke's has been a major sponsor of the IHDE, which is a way to connect providers throughout the state. But the real step to advance information sharing broadly is through greater interoperability of different EMRs, and this will be an important feature of most systems in the next few years.³⁷

An important part of integrated patient care is not just having shared medical records, but having the analytical and decision tools to use the data that are contained in the medical records.

³⁷ The HITECH Act includes an incentive program for providers' meaningful use of electronic health records. Stage 2 meaningful use criteria include interoperability measures. See <http://www.healthit.gov/providers-professionals/how-attain-meaningful-use>.

St. Luke's asserted that Saltzer would have been unable to gain access to its new data analytic tool absent the transaction.

However, the evidence did not support this efficiency. The tool was still in development and not actively utilized by any other health care system, and thus its effectiveness was not demonstrated. If Saltzer had wanted to integrate a data analytics tool into its existing EMR, there were a number of more widely used software packages available. For example, during the trial, the other major hospital in the area (and a private plaintiff), St. Alphonsus, demonstrated Explorys, which is another data analytical tool. It had the additional benefit of being widely used and therefore better suited to population health management, which is necessary to negotiate risk-based contracts.

St. Luke's asserted that it needed to employ the Saltzer doctors to change their incentives from those in traditional fee-for-service medicine. Only by changing these incentives could Saltzer effectively practice the type of value-based medicine to enter full risk-based contracts with payers. However, this claimed efficiency was at odds with St. Luke's current practice and its actual agreement with Saltzer. Under the professional services agreement, Saltzer doctors were to be paid for the volume of services provided. The Saltzer physicians, for the next two years at least, were going to earn more money in accordance with providing more services. The agreement between Saltzer and St. Luke's did not detail any performance-based or risk-based compensation, despite the fact that movement in that direction was what the merger was supposed to facilitate. Furthermore, the evidence supported the notion that risk-based arrangements were in use in Idaho for provider groups of varying sizes.

In conclusion, the evidence was insufficient to conclude that St. Luke's acquisition of Saltzer would create verifiable, non-speculative, and merger-specific quality efficiencies.

IV. Dalbey Education Institute

Economists in the Bureau's Division of Consumer Protection frequently work with marketing researchers and attorneys to collect and analyze consumer behavior data in the course of investigations. The Federal Trade Commission's case against Russell and Catherine Dalbey and the Dalbey Education Institute (DEI) provides an example of how such research is used in litigation. This matter is particularly interesting because the litigation team worked together to

examine a novel defense with roots in behavioral economics: the “unused gym membership” theory.

A. Case Background

DEI created and disseminated infomercials and direct mail advertisements for their signature product: “Winning in the Cash Flow Business.” The product consisted of a series of training materials that were designed to teach consumers how to locate and broker seller-financed promissory notes (“cash flow notes”), which are privately held mortgages or notes that are often secured by the home or land that is the subject of the loan. DEI advertised that consumers would quickly and easily earn substantial amounts of money through commissions from brokering these cash flow notes.

Approximately 949,000 consumers throughout the U.S. and Canada purchased this initial product, ranging in price from \$40 to \$160, from DEI.³⁸ DEI also offered “up-sells”, such as additional training materials or coaching sessions, which ranged in price from hundreds to thousands of dollars. DEI’s revenues (less refunds and chargebacks) from 2006 to 2011 exceeded \$330 million.³⁹ DEI’s sole substantiation for the validity of the claims made in their advertisements was a list of 296 individuals (out of 949,000 customers) who had self-reported to DEI earning money from brokering notes.

B. FTC Evidence

FTC staff commissioned a survey in order to measure the success rates of DEI customers. DEI’s attorneys articulated a novel defense: the “unused gym membership” defense. The defendants’ attorneys argued that DEI customers may not be achieving their desired level of success due to present-bias or hyperbolic discounting.⁴⁰ That is, for the same reasons that individuals frequently promise (themselves) to start their diets tomorrow or under-utilize gym memberships, consumers may have purchased DEI’s training materials but then not invested the necessary time or effort to achieve success (O’Donoghue and Rabin, 1999; DellaVigna and Malmendier, 2006).

³⁸ *FTC v. Dalbey*, No. 11-cv-01396-RBJ-KLM (D. Colo.) (Final Pretrial Order) (filed May 9, 2013, Stipulation #30).

³⁹ *FTC v. Dalbey*, No. 11-cv-01396-RBJ-KLM (D. Colo.) (Final Pretrial Order) (filed May 9, 2013, Stipulation #39).

⁴⁰ *FTC v. Dalbey*, No. 11-cv-01396-RBJ-KLM (D. Colo.) (Defendants’ Motion to Exclude Plaintiffs’ Experts Dr. Manoj Hastak and Dr. Frederica Conrey) (filed Nov. 6, 2012).

FTC staff obtained and examined DEI's customer purchase database. To address the defendants' novel defense, we tabulated customer expenditures and stratified the customers into two groups: individuals who spent less than \$500 on DEI products and services (representing 86% of customers), and individuals who spent \$500 or more. We stratified by customer expenditure under the theory that individuals who spent \$500 or more signaled that they were likely to make an effort to locate and broker cash flow notes, and any lack of success would be unlikely to be attributable solely to a lack of effort.⁴¹ We then drew a random sample of 1,500 consumers from each of these two groups for a survey about their experiences and outcomes with DEI.

FTC staff conducted a mail survey to assess: (1) the frequency and magnitude of success of DEI consumers in earning money by brokering cash flow notes; and (2) the difference in success rates, if any, between customers that spent less than \$500 versus those that spent \$500 or more on DEI training materials. In addition, FTC staff commissioned a follow-up telephone survey that was designed to elicit the same information from the individuals who did not respond to the initial mail survey.

The surveys asked consumers how many hours per week they spent trying to broker notes in the first few months after their initial purchase from DEI; how many cash flow notes they brokered; and how much money they earned brokering notes. The results of the two surveys were clear: Although there was significant variation in the effort levels of the two expenditure groups, neither group achieved meaningful success in earning any money through the use of DEI's materials.

For consumers spending less than \$500 on DEI products, 0.8% reported ever brokering a note or earning any money. For consumers who spent \$500 or more on DEI products, 2.7% reported ever brokering a note, and 1.9% reported earning any money from the transaction. Weighting the survey responses to account for the stratification and over-sampling of the high-expenditure customers implied that only 1.1% of respondents ever brokered a single note and 0.9% ever earned any money.

Given the disconnect between DEI's advertising claims and the surveyed customers' experiences, the FTC filed a complaint in 2011 that charged that defendants' claims that

⁴¹ We stratified at the \$500 cutoff because: (1) given the pricing of DEI's up-sells, spending more than \$500 required purchasing at least one substantial additional training product or service; and (2) there was a sharp increase in the c.d.f. of customer expenditures around \$500, naturally dividing customers into two distinct groups.

consumers would quickly and easily earn substantial revenue from brokering cash flow notes were false and unsubstantiated. The case settled in 2013 with an order that banned Dalbey and his wife from telemarketing, from marketing or selling business opportunities, and from producing or distributing infomercials. The settlement also contained a judgment for \$330 million as equitable monetary relief.

In summary, analysis of the DEI customer database and the resulting survey of customer outcomes was an important component of demonstrating the falsity of DEI's advertised claims. Specifically, an analysis that stratified customers based on observable measures of their investment helped refute the defendant's claim that a behavioral economics phenomenon explained the low success rates of their clients.

V. Conclusion

FTC economists analyze a wide array of consumer and competition issues, as demonstrated in this article. Even as we address topics that have become familiar to us over the years, such as office supply retail mergers, healthcare consolidation, and alleged fraudulent behavior, we are constantly faced with new market realities and defense strategies that require us to advance and tailor our economic analyses. This is achieved not only through standard investigative techniques that uncover the most recent relevant information about the subjects of these investigations, but also by thinking hard about the underlying economics of the phenomena that we analyze and bringing to bear rigorous economic analysis that is informed by the best and most relevant scientific research in economics.

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