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MERGER EFFICIENCIES AT THE FEDERAL TRADE COMMISSION 1997–2007

by

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The analyses and conclusions contained in this paper are those of the authors and do not purport to represent the position of the Federal Trade Commission, any individual Commissioner, or any Commission Bureau.

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EXECUTIVE SUMMARY

The Federal Trade Commission and the Department of Justice significantly expanded the efficiencies section of the *Horizontal Merger Guidelines* in April 1997. The revisions broadened the scope of the analysis and clarified the framework for determining when claimed efficiencies should be recognized in merger analysis. This study reviews how FTC staff have treated efficiencies claims in the following ten years, considering 186 mergers in which the Commission staff completed a second request investigation, between April 1997 and March 2007.

We designed this study to determine what types of efficiencies claims parties raised and how staff treated each type of efficiency claim. We analyzed the Bureau of Competition ("BC") and Bureau of Economics ("BE") evaluations of the parties' efficiencies claims, and compared those evaluations to each other. These analyses allowed us to make several general observations concerning the staff evaluations of the efficiency claims.

1) BC and BE staff analyses, considered together, did a thorough job of acknowledging and considering the parties' efficiency arguments.

2) In general, little appears to have changed with the types of the parties' efficiency claims or the staff's treatment of them during the ten-year period studied.

3) Both BC and BE staff did not make conclusive recommendations concerning a majority of efficiency claims they considered.

4) In general, BE staff were more likely to accept efficiency arguments than BC staff; BC staff were more likely to reject efficiency claims than BE staff.

5) Staff were as likely to accept fixed-cost savings as they were to accept claims of variable-cost savings. Both staffs seem more likely to accept dynamic efficiencies and more likely to reject generic efficiency claims than other types of efficiencies.

6) Staff were more likely to agree on basic verification and merger-specificity issues than concerns associated with validity, fixed costs, and pass-through.

I. Introduction

The Federal Trade Commission and the United States Department of Justice significantly expanded the efficiencies section of the *Horizontal Merger Guidelines* in April 1997.[1] The revisions enhanced the structure and clarified the framework for determining when claimed efficiencies should be recognized and introduced a balancing analysis that weighed these efficiencies against the potential harm to consumers. This study reviews how FTC staff has treated efficiencies claims in the ensuing ten years, considering 186 mergers in which the Commission staff completed a second request investigation, between April 1997 and March 2007.

We designed this study to determine what types of efficiencies claims the parties raised and how staff treated each type of efficiency claim. We analyzed the Bureau of Competition ("BC") and Bureau of Economics ("BE") evaluations of the parties' efficiencies claims, and compared those evaluations to each other. The data ultimately allowed us to make several general observations about staff evaluations of the relevant efficiencies.

Review of the BC and BE staff memoranda revealed that staff have considered a wide range of efficiencies arguments. Staff regularly conducted a thorough examination of efficiencies presentations throughout the ten-year study period. In many matters, staff identified a number of concerns with the efficiency claims; not all of these concerns, however, were fully consistent with the language of the *Merger Guidelines*. Staff explicitly accepted some efficiencies claims and rejected efficiency arguments in other matters; however, staff did not take a conclusive position on the majority of efficiencies claims discussed in the studied memoranda. While there were broad areas of similarity, the BE analyses appeared somewhat more likely to

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[1] *See* United States Department of Justice and Federal Trade Commission, *Horizontal Merger Guidelines* § 4 (1997) (hereinafter "*Merger Guidelines*" or "*Guidelines*").

view efficiency arguments favorably than the BC analyses. Both Bureaus appeared relatively more likely to accept dynamic efficiencies than efficiencies of other types. Neither Bureau was more likely to accept claims of either fixed- or variable-cost savings over those of the other type. Focusing the comparison on specific concerns with efficiencies showed that the Bureaus were more likely to be in agreement as to whether an efficiency might not be verifiable or merger-specific, two concerns that are relatively straight-forward in application, but were less likely to agree regarding the concerns of validity, fixed costs, and the extent to which the efficiency benefits would be passed through to consumers.

This paper first provides background information regarding the 1997 revisions to the *Merger Guidelines* and the nature of this study, as well as setting forth the methodology used to compile the data. Section III provides an overview and summary of the analysis of efficiencies performed by FTC staff in the matters considered in this study. Sections IV and V of the paper analyze the treatment of efficiencies claims by the Bureau of Competition and the Bureau of Economics. Finally, the paper performs a comparison of the two Bureaus' treatment of efficiencies claims in Section VI.

II. Background and Methodology

A. The 1997 Revisions to the *Merger Guidelines*

The *Merger Guidelines* were revised in 1997 solely to expand significantly Section 4, the section covering the treatment of efficiencies. The first significant change made to Section 4 of the *Guidelines* was a transformation of the "verification" requirement from an internal assessment of the alleged savings by staff to an explicit requirement that the merging firms "substantiate efficiency claims so that the Agency can verify by reasonable means the likelihood and magnitude of each asserted efficiency."[2] In particular, this provision places the burden clearly upon the parties to provide FTC staff with evidence that allows staff to verify "by reasonable means" the veracity of the claims. Accordingly, the "stronger the supporting evidence, the more credence the [FTC is] likely to give the claimed efficiencies."[3] When the substantiation of a claim is inadequate, however, the FTC will "reduce the magnitude of the efficiencies associated with that claim rather than reject the claim altogether."[4]

A second important change altered the standard of merger specificity from its previous restriction on efficiencies that may "reasonably be achieved by the parties through other means" to a standard that discounts efficiencies only if alternative means are "practical in the business situation faced by the merging parties."[5] This revision requires that any alternative means to achieve the proposed efficiency posited by FTC staff must be realistic, not hypothetical. So, for example, the theoretical possibility that the efficiencies could be achieved through a joint venture or contractual arrangement does not necessarily disqualify the efficiency claim, in recognition of the fact that such an arrangement can impose other transaction costs (such as monitoring) that may make it inferior to the proposed merger.[6]

A third significant change instituted by the new *Guidelines* was a validity requirement.[7] This provision requires the rejection of proffered cost savings that arise from anticompetitive

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2 *Merger Guidelines* § 4.

3 Federal Trade Commission & U.S. Department of Justice, *Commentary on the Horizontal Merger Guidelines* 52 (2006) (hereinafter "*Guidelines Commentary*").

4 *Id.*

5 *Merger Guidelines* § 4.

6 *Guidelines Commentary*, at 50.

7 The *Guidelines* provide that "cognizable efficiencies are merger-specific efficiencies that have been verified and do not arise from anticompetitive reductions in output or service." *Merger Guidelines* § 4. For clarity, we refer to savings that do not result from anticompetitive

reductions in output or service. Although perhaps obvious, the cost savings that result from such output reductions do not represent resource savings that benefit consumers, and therefore are not valid "efficiencies."

Finally, the 1997 revisions to the *Guidelines* formally endorsed a "price standard" when balancing the expected efficiencies against the contemplated anticompetitive effects.[8] That is, the putative efficiencies advanced by the parties must be sufficiently large to negate the potential harm to consumers in order to provide a procompetitive "defense" for the merger. The revisions also confirmed that the purview of efficiencies extends beyond price to include quality improvements, enhanced service, and new products that benefit consumers.[9] Again, while perhaps obvious, this clarifies that mergers can benefit consumers in ways other than lower prices.[10]

B. Methodology of the Study

The study assessed memoranda in 186 transactions subjected to a second-request investigation and sent to the Commission for a final decision during the ten-year period from April 1997 to March 2007.[11] The staff memoranda analyzed the mergers under the framework

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actions as "valid" efficiencies, and efficiencies that are valid, merger specific, and verified (and not otherwise objectionable) as "cognizable" efficiencies.

8 *See Merger Guidelines* § 4 ("The Agency considers whether cognizable efficiencies likely would be sufficient to reverse the merger's potential to harm consumers in the relevant market, e.g., by preventing price increases in that market."). The *Guidelines* do allow for consideration of cognizable efficiencies in other markets to the extent that they are "inextricably linked" to the those in the market(s) of competitive concern. *Id.* § 4 n.36.

9 *Id.* § 4.

10 *Guidelines Commentary*, at 49 ("Efficiencies in the form of quality improvements may also be sufficient to offset anticompetitive price increases following a merger.").

11 The Commission issued 319 relevant second requests during fiscal years 1997–2006 (October 1996 to September 2006), a period that formed the core of our study. We excluded from the study matters that received a second request, but (1) the parties' Hart-Scott-Rodino ("HSR") filing was withdrawn before staff issued a final recommendation, (2) the investigation

set out in the 1997 revisions to the *Merger Guidelines*. The majority of the matters evaluated during this period, 121, resulted in entry of a consent decree, while in 17 matters the Commission supported seeking a preliminary injunction ("PI"), and in 48 matters the Commission closed the investigation without taking any enforcement action.[12] Of the 186 matters under review, 159 raised substantially or completely horizontal concerns, 15 matters had principally vertical concerns, 9 focused on potential competition, and 3 considered possible problems with monopsony power.[13]

The study reviewed two documents for each merger: the Bureau of Competition staff memorandum and the Bureau of Economics staff memorandum.[14] Teams of research assistants, from both BE and BC, reviewed the staff memoranda for each merger. For each matter, two

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was closed after a "quick look," without a full Commission review, (3) the second request was issued or reviewed outside of the typical HSR process, or (4) matters in which the decision pre-dates the April 1997 release of the revised *Merger Guidelines*. Overall, the number of mergers in the study constitutes approximately 58% of all matters that received a second request.

12 In 9 of the 17 matters the parties abandoned the proposed merger, usually after a Commission vote to seek an injunction; in 8, the Commission litigated a preliminary injunction case.

13 Not every case can be categorized as entirely "horizontal" or "vertical." Some mergers have both horizontal and vertical components. In categorizing the 186 cases, we looked to the primary antitrust concerns at issue. Those that raised significant concerns typical of horizontal mergers, such as increased concentration in relevant markets, were considered horizontal, whereas those presenting serious concerns typical of vertical mergers, such as foreclosure of competitors, were categorized as vertical.

14 In some mergers, BE did not write a memorandum. When BE co-authored the BC memorandum, each Bureau was given credit for half of the efficiencies discussion. When BE only concurred in the BC memorandum, no credit was given to BE for any analysis. Similarly, BC references to BE efficiency analyses were not coded as efficiency claims addressed by BC staff.

In some matters, staff for BC and BE agree to divide their work, such that only BE (or BC) addresses efficiency claims. We attributed the efficiencies discussion to the Bureau in whose memorandum the discussion took place, regardless of whether the work was allocated by agreement to that Bureau.

research assistants completed a coding form extracting data from the memoranda.[15] Differences between the two researchers' coding were reconciled by the authors. We subsequently performed quality checks on the data to ensure consistency throughout and to resolve any remaining inconsistencies. The information gleaned from the memoranda was entered into a database that was used to perform the analysis in this paper.

The data gathered included basic information about the merger, such as the dollar value placed on the transaction, the magnitude of the efficiencies claimed, the BC merger "shop" responsible for reviewing the merger, the BE "division" that performed BE's analysis of the proposed merger, and the final outcome of the investigation. The data also included more detailed information about the types of efficiencies claimed by the parties, the staff's assessment and critique of each claimed efficiency, and the extent of the staff analysis. A more comprehensive explanation of the data gathered appears in the next subsection.

C. Information Gathered About Efficiencies Claims

The review of BC and BE staff memoranda collected information on the treatment of efficiencies by FTC staff.[16] In a significant minority of cases, 39 of 186, neither BC nor BE staff addressed any efficiencies claim.[17] In the majority of the mergers (147 of 186), the staff

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15 A coding form is included as Appendix A.

16 All efficiencies reported by staff were included in the analysis. However, the analysis likely omits a number of efficiencies arguments unrelated to the competitive concerns of the merger. At the outset of a merger, parties may assert broad efficiencies from the proposed transaction. Once the investigation is narrowed to certain areas of competitive concern, the parties focus their efficiencies arguments on those areas in order to justify allowing the entire transaction to proceed (unless the efficiencies are inextricably linked to areas without concern). As a result, staff are not likely to address at all the efficiencies outside these areas of concern in the memoranda so long as the relief proposed would allow the parties to obtain these efficiencies anyway.

17 We believe the absence of discussion in the memoranda suggests that the parties did not seriously advance any efficiencies claims in these 39 matters.

reported efficiencies arguments.[18] In a few instances, the efficiency claims described were not attributed to the parties. Such efficiencies were included in the data along with those explicitly attributed to the parties.

We defined twelve categories of efficiencies, corresponding to the types of claims we saw regularly during an initial review of the staff memoranda. Five categories generally focus on fixed-costs: (1) overhead reductions, (2) plant or facilities "rationalization," (3) savings on research and development, (4) promotional and marketing efficiencies, and (5) a miscellaneous category for other fixed-cost claims. We also identified five categories of efficiencies that typically represent variable-cost savings: (6) production-cost efficiencies, (7) distribution-cost reductions, (8) raw-material economies, (9) "best practices" (implementation of one company's superior, and cheaper, production methods), and (10) an "other" category for variable-cost efficiencies that do not fit into one of the variable-cost categories. Finally, we identified two additional categories of efficiencies to complete the set of efficiency savings that staff would likely confront. First, we created a category for (11) dynamic efficiencies to cover savings that accrue other than from reductions in the cost of day-to-day operations. Examples include vertical integration that reduces transactions costs, savings associated with the introduction of new products or processes, savings in related markets that are inextricably linked to the market of concern, and an enhanced ability to compete.[19] The final category, (12) generic claims,

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18 The Commission employs a small staff of accountants to assist in financial analysis. This accounting input was available to both BC and BE over the period of the study, even though the accountant staff was formally transferred from BC to BE in 2002. Both BC and BE could incorporate aspects of this analysis into their memoranda. If the accounting analysis was appended to either the BC or BE memorandum, it was attributed to the Bureau appending it.

19 In some instances, parties claimed demand-side efficiencies, which were allocated into the dynamic-efficiency category. Demand-side efficiencies are those stemming from a company's ability to offer better products or a broader range of products that increase consumer demand. The efficiencies result from the ability of a merged company to capture marketing

addresses cost savings advanced by the parties without sufficient detail to allocate the savings into fixed or variable categories.[20]

For each claimed efficiency, we determined whether it was accepted or rejected, and identified the reasons set out by staff for why the claim should be rejected. In many instances, staff did not explicitly reject or accept the claimed efficiencies; but where the discussion strongly seemed to favor one result or the other, we categorized staff's non-explicit resolution as an acceptance or a rejection. For a large number of matters, staff did not make any clear recommendation (either explicit or implicit) with respect to the efficiency claim; for those cases, we recorded that staff made "no decision" and noted any reasons staff considered for possibly rejecting the claim.[21]

We established six categories for staff's concerns about the legitimacy of a claimed efficiency, with the first four designed to correspond to those set out in the *Merger Guidelines*: inadequate substantiation or lack of verifiability; lack of merger specificity; lack of validity; and accrual of efficiencies outside the area of competitive concern. Two other reasons—efficiencies that relate only to fixed costs and efficiency savings that would not be passed on to consumers—were established because of their frequent use in the staff memoranda.[22] We also provided an

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synergies that the two merging parties, when separate, were not able to obtain. Synergies of this type are often called "cross-selling" opportunities, although they are not necessarily limited to such approaches.

[20] In some instances, it appeared that the parties had begun to make an efficiencies argument, which staff acknowledged, but did not pursue efficiencies as a justification because it became clear at an early stage that efficiencies would not affect the outcome of the matter.

[21] We required clear evidence of acceptance or rejection of the efficiency claim. This minimized the potential for an artificial distinction between BC and BE findings based only the tone of the presentation. Moreover, it minimized any impact that might arise if staff tailored the tone of the analysis to match their ultimate recommendation.

[22] The *Merger Guidelines* do not explicitly (1) foreclose the use of fixed-cost savings as cognizable efficiencies, or (2) provide that the lack of an immediate pass-through to consumers

“other” category and a category for instances where staff provided no reason at all for their concerns with the efficiency claim. In many instances, staff provided multiple reasons for declining to accept a given efficiency, and our categorization allowed for recording all of those reasons.

Finally, for a large share of the matters, the staff memorandum contained an estimate of the relevant cost savings, either for each efficiency claim or an aggregate of all efficiency savings. Parties typically express the aggregate efficiency savings in terms of annual savings going forward after the merger is implemented, so it was relatively simple to record the value of the savings forecasted by the parties.[23]

The study relied on the efficiencies reported by BE and BC staff, rather than those actually proffered by the merging parties in their various submissions to the Commission. Such arguments are typically made by the parties in the course of responding to a second request. Because the Commission does not retain the parties’ documentary submissions in its official archives, however, we did not have access to the parties’ second request interrogatory responses[24] or their white papers.[25] We did locate white papers for fifteen of the mergers

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renders the efficiency not cognizable. Indeed, the FTC will consider “reductions in fixed costs, even if they cannot be expected to result in direct, short-term procompetitive price effects because consumers may benefit from them over the longer term even if not immediately.” *Guidelines Commentary*, at 58. Both of these issues are relevant in the balancing of efficiencies with anticompetitive effects, although staff often did not treat them in that fashion. Because of staff’s usual approach, this study tabulated how often staff raised these issues in the general efficiency discussion.

23 In some instances, short-run savings are significantly different from long-run savings, because of merger-related transaction costs, one-time cost savings, or multi-year integration plans. We did not attempt to record information about the precise timing of the savings because it appeared immune to systematic analysis. Instead, we used the annualized longer run cost savings to define the value of the efficiencies savings.

24 The model second request used by Commission staff contains at least one specification requesting that the parties identify the efficiencies, if any, that the parties will realize from the merger.

reviewed in staff files. These white papers generally contained substantial efficiencies presentations, and we used them to assess the accuracy of the efficiency summaries contained in the staff memoranda. In twelve of the matters, both staff memoranda described and critiqued the parties' efficiency arguments presented in the white paper, while in one matter the efficiencies claims were discussed only in the BC memorandum. Neither staff addressed the parties' efficiencies arguments in the remaining two matters.[26] Thus, the staff highlighted efficiencies for the Commission to consider in 87 percent of the transactions for which we located white-papers.

We also explored the comprehensiveness of the staff's efficiency analyses. The 15 white papers contained a total of 58 efficiencies claims, all but 7 of which were discussed by either BC or BE staff in their memoranda.[27] This represents a completeness rate of 88 percent. The staff memoranda in these matters attributed an additional 20 efficiency claims to the parties beyond those contained in the parties' white papers. This discussion of additional claims suggests that the parties made efficiency presentations that went beyond their formal white papers, and staff fully examined the claims. Overall, the evidence implies that the staff made a thorough effort to convey a wide range of efficiencies to the Commission. Furthermore, it suggests that evaluating

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[25] In many merger matters, the parties submit a "white paper" setting forth their view of the case and marshaling evidence to support their position. In some mergers, the issues are clear and a white paper may not be necessary. In other matters, the parties may submit a series of shorter position papers on various issues of concern to FTC staff. As a result, not every merger has a white paper associated with it.

[26] Both of these matters contained relatively simple efficiency arguments and resulted in consent decrees. Overall, 33 percent of the white-paper matters resulted in staff recommending that the Commission seek a preliminary injunction ("PI"). Staff advised the Commission of efficiencies in all of the 17 matters that resulted in either the Commission seeking a PI or a merger abandoned in the face of a threatened PI, presumably to ensure the Commission understood the risks of possible litigation.

[27] The parties presented an equal number of fixed- and variable-cost efficiencies, a result comparable to the aggregate staff analyses, discussed later in Tables 2 and 3.

documentary submissions might also be underinclusive. Accordingly, we conclude that relying upon the staff memoranda was the best evidence regarding the claims evaluated by staff and presented to the Commission, and that the data drawn from those memoranda best allowed us to determine the strength and comprehensiveness of staff's efforts to evaluate efficiencies claims.

III. Overview of the Consideration of Efficiencies by FTC Staff

In 147 matters, one or both staff memoranda included a discussion of efficiencies. Both Bureaus held comparable records in informing the Commission, as each reported efficiencies in a similar number of matters (BC discussed efficiencies in 115 cases, BE in 118). There remained 39 matters in which neither BC or BE staff reported efficiencies claims. The study focused on the 147 matters in which one or more efficiency claims were reported by staff.

The review of these matters also permitted us to determine the types of efficiencies claims that the parties make, and the frequency with which they are made. Table 1 summarizes the number of claims made in each of the matters as reported by BC staff and BE staff. The data range from a low of zero claims to a high of six or more claims. The results are generally comparable between the two Bureaus, although some differences can be observed for higher counts of efficiency claims.

We also tested whether parties are making more efficiencies claims now than in the past. To determine this, we divided the staff memoranda into two periods. There were 113 matters decided from April 1997 to March 2002 and another 73 transactions evaluated from April 2002 to March 2007. BC identified 342 claims, with 217 described in the first period and 125 noted in the later period. BE had 311 claims, with 202 claims in the first period and 109 in the second period. While the data weakly suggests that the average number of claims identified per matter fell over time (from 1.92 to 1.71 for BC and 1.79 to 1.49 for BE), the result is not statistically significant (t-statistics .29 and 1.18 for BC and BE, respectively). Thus, no change in the intensity of the staff analyses should be inferred.

Staff reported a monetary value for the parties' efficiency claims in 94 of the 147 matters.[28] The annual value of savings predicted by the merging parties once the companies were fully integrated ranged from a few hundred thousand to almost three billion dollars. The magnitude of the savings claimed relative to the valuation of the transaction, however, provides a better measure of the efficiencies claimed. For the 92 matters where valuation information was readily available, the percentage savings claimed ranged from to 0.35 percent to 47.3 percent, with an average of 8.1 percent and a median of 4.85 percent of the transaction's reported value.

We also conducted an intertemporal analysis of these data to glean additional insights from the arguments of merging parties in these 94 matters. Using two five-year periods, we determined that efficiencies claims of over $100 million were present in 23 of the 62 matters (37 percent) from April 1997 to March 2002 and in 13 of the 32 matters (41 percent) from April 2002 to March 2007.[29] The mean value of the efficiencies claimed, however, decreased insignificantly from $237 million for 1997–2002 to $191 million for the matters from 2002–2007 (t-statistic .49). This difference disappears almost entirely when the medians are compared

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28 In instances where the two staff reviews identified different cumulative values claimed by the parties, we took the higher amount claimed. We believe that this creates the most appropriate estimate of the parties' claims, as the staff may have not reported the full claims in their memoranda. (It is highly unlikely that staff attributed amounts claimed in excess of what the parties advanced.) In effect, our proxy may underestimate the parties' claims, but choosing the higher of the two figures serves to reduce any error.

However, the efficiency figures claimed by the parties likely overstate the actual cost savings that could result from the merger, because some of the efficiencies claimed may not be cognizable.

29 Efficiencies were quantified in 54.9 percent of the 113 matters from April 1997 to March 2002 and 43.8 percent of the 73 matters from April 2002 to March 2007. This difference is not statistically significant (t-statistic 1.47).

($57.5 million to $59.7 million, respectively). Comparable results are observed for efficiencies as a percentage of the transaction's total value. For the 1997-to-2002 cases, the average efficiencies-to-value ratio was 8.39 percent of the valuation, while for the 2002-to-2007 cases the figure was insignificantly lower at 7.67 percent (t-statistic .37). Again, the respective medians were virtually identical, at 4.79 percent and 4.85 percent. Thus, the data show that the value of efficiency claims was relatively stable and consistent during the ten-year period under review.

IV. Bureau of Competition Analyses of Efficiencies Arguments

We reviewed the analyses of the Bureau of Competition staff to answer a variety of questions, including the type of efficiency claim made, the thoroughness of staff's consideration, the likelihood that different types of efficiencies claims would be accepted, and the reasons most frequently cited for objecting to claimed efficiencies. This analysis was particularly robust because BC staff memoranda existed for all of the 186 matters in the study.

A. Length of Efficiencies Discussion

We identified efficiencies discussions in 115 of the 186 matters. The analyses in the memoranda ranged from a few sentences to a comprehensive 50-plus page study. Not including the 71 memoranda devoid of any efficiencies analysis, the average BC staff memorandum dedicated 5.0 pages to a discussion of efficiency arguments.[30] The variance in the page count is large, as 37 memoranda contained less than a page of discussion, while 13 matters consumed ten or more pages. The median page count was 1.9. A comparable dispersion was found when the length of each analysis was normed by the overall length of the memorandum. The average

[30] All page-length figures are for double-spaced pages. Because staff does not consistently use double spacing, we adjusted the page count for the single-spaced memoranda by multiplying by an adjustment factor of 1.5. This is a reasonable conversion factor, given double-spaced memoranda contain single-spaced material (*e.g.*, quotations, tables, and footnotes).

memo used 5.2 percent of the text to discuss efficiencies (the median was 2.8 percent). For 22 matters, the efficiency analysis amounted to less than 1 percent of the memorandum, and for 17 matters, the efficiencies discussion constituted a share greater than or equal to 10 percent of the memorandum.

Some of the variance in page length appears to be associated with the outcome of the matter. Limiting the sample to matters containing efficiency discussions, the mean length of the efficiencies discussion in PI matters (*i.e.*, the Commission supported a preliminary injunction) was 12.4 pages (the median was 4.5 pages). By comparison, the mean length was 5.06 pages (the median was 1.5 pages) for the closed matters, and only 2.94 pages for the matters in which a consent decree was recommended (the median was 1.35 pages).[31] The mean page count for the PI matters was significantly higher than that for both the settled matters (t-statistic 3.75) and closed matters (t-statistic 2.12), but the average page count for settled matters did not differ significantly from the page count for closed matters (t-statistic 1.59).[32]

The differences in page length are not surprising. In a matter for which litigation is proposed, staff are likely to be the most comprehensive.[33] Cases resulting in consent decrees, however, typically raise fewer contentious issues and the relief is sometimes structured to allow most (if not all) of the claimed efficiencies to be achieved while remedying competitive

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[31] BC staff discussed efficiencies in all 17 PI matters, as well as in 61 of the 121 settled transactions and 37 of the 48 closed investigations.

[32] PI matters also had significantly longer efficiency discussions when evaluated as a percentage of the staff page count (t-statistics 4.26 and 1.94 for comparisons with settled and closed matters, respectively). The efficiency discussion in closed cases made up a higher average percentage of the memo than in settled cases, however (t-statistic 2.87). This result was influenced by longer staff memos in settled cases.

[33] Although page length is not a perfect measure of comprehensiveness, we believe that page length, particularly when adjusted for the overall length of the memorandum, provides the best available measure of thoroughness.

concerns. As a result, efficiencies are frequently not at issue in matters for which staff recommend a consent decree, and accordingly, staff devote less attention to them in their memoranda.[34] Similarly, for matters that are closed, staff do not face the same pressure to evaluate every potential impact of the merger. They may, however, pay some greater attention to efficiencies because they can provide an additional basis for not having concern about the competitive effect of the merger, potentially explaining the greater number of pages as compared to matters resulting in consent decrees.

B. Treatment and Evaluation of Efficiency Claims

We next examined the treatment BC staff gave to each type of efficiency. As explained in Section II, we classified the efficiency claims into twelve categories. There are five categories for fixed-costs savings, five for variable-cost efficiencies, one for dynamic efficiencies, and one for generic claims. We looked at the number of claims staff considered in each matter, the different types of claims confronted by staff, and how staff treated each efficiency category.

The BC memoranda discussed an average of 3 claims in each of the 115 matters with efficiency discussions. Divided by time period, there were an average of 3.06 claims in the 71 matters reviewed prior to April 2002 and 2.84 claims for the 44 matters decided from April 2002 to March 2007. This difference is not significant (t-statistic .65), and offers no evidence to suggest that BC staff has changed the comprehensiveness of its consideration of efficiencies during the ten-year period studied.

BC staff evaluated a greater number of claims, on average, in matters in which litigation was proposed, 3.41 claims per matter, than in either settled matters, 2.72 claims per matter or

[34] Indeed, of the 39 matters for which neither BC nor BE discussed efficiencies, 37 were matters that resulted in a consent decree.

closed matters, 3.19 claims per matter.[35] However, the difference in the claim count between the PI and settled matters is not statistically significant (t-statistic 1.44). Likewise, there is no significant difference between the averages for enforcement matters (combination of PI and settled cases) matters and closed matters (t-statistic .92).

In order to quantify BC staff's treatment of the efficiencies arguments, we determined whether staff accepted each efficiency, rejected it, or failed to make a clear decision, as described in Section II. In Table 2, the aggregate data show that the BC memoranda discussed a total of 342 efficiency claims, rejecting 109 and accepting 29. There was no decision on the remaining 204 claims. Efficiency claims were accepted in 4.2 percent of the settled matters, 6.9 percent of the PI matters, and 15.3 percent of the closed cases. While no significant difference exists between the rate of efficiency acceptance for the settled and PI matters (t-statistic .72), the closed cases are more likely to exhibit efficiency acceptances than the enforcement actions (t-statistic 2.86).

Table 2 presents, for each type of efficiency claim, the number of them that BC staff accepted, rejected, or made no decision upon. As Table 2 shows, overhead efficiencies and facilities rationalization are two of the most popular types of claims, appearing in approximately 50 percent of the 115 matters in which an efficiency claim was made. Other frequently claimed efficiencies include raw-materials savings (40 instances, 35 percent of sample) and production-cost efficiencies (35 instances, 30 percent of sample). Overall, 48 percent of the efficiency claims presented in the BC memoranda fell into the fixed-cost categories and 39 percent appeared to affect variable costs.

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[35] These figures exclude from their calculations matters in which no efficiencies claims were discussed.

The data compiled also show substantial variance in the staff evaluations depending upon the type of efficiency claimed. For example, dynamic efficiencies were accepted 23 percent of the time, a result that is almost significantly different from the average acceptance rate (7.5 percent) for the rest of the sample (t-statistic 1.60). A more powerful test suggests that this difference in the ratios is marginally significant.[36] Similarly, certain types of claims were much more likely to be explicitly rejected. For example, generic efficiencies were rejected over 50 percent of the time, and two other efficiency classes—"other" fixed-cost savings and "other" variable-cost savings—were rejected over 40 percent of the time. In comparison, the rejection rate for the remaining cases in the sample (29.2 percent) was significantly lower (t-statistic 2.50). We therefore concluded that some types of efficiency claims are more likely (or less likely) to be accepted or rejected than others. No difference existed in the acceptance rate between the fixed-cost (first five in table 2) and variable-cost efficiencies (second five in table 2), as both were accepted in 7.4 percent of the relevant claims.

We also sought to determine the specific objections BC had with efficiencies claims, leading either to rejection or simply as a concern flagged for the Commission's consideration. Many of the BC memoranda contained detailed discussions setting out BC staff's assessment of the deficiencies in the parties' efficiencies claims. We summarized this information into categories based upon the reason for no decision or rejection, as described in Section II.

Staff raised a total of 553 concerns with respect to the 313 efficiency claims that they did not accept, as shown in Tables 4 and 5.[37] (Staff often identify multiple concerns with a single

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36 The Fisher test for the difference in binomial means suggests that the acceptance rate for dynamic efficiencies findings is significantly different from the acceptance rate for the rest of the sample.

37 A summary of the staff analyses of each type of efficiency claim appears in Tables 4 and 5 (the data is given first for BC, and then for BE). Table 4 summarizes the staff analyses for

efficiency claim.) Overall, BC staff raised a single concern with 145 of the 313 claims that were not accepted and more than one concern for the other 168 claims. Staff raised the three central *Merger Guidelines* issues of verifiability, merger specificity, and validity a total of 187, 152, and 23 times, respectively. Staff noted concerns that the savings would not be passed along to consumers in 69 instances, and raised the fact that the claimed efficiency related to fixed costs 32 times. Staff expressed a concern that the efficiencies accrued outside of the market of concern 41 times. In another 47 instances, BC staff stated general concerns without sufficient elaboration to categorize the basis. Two of the comments defied classification entirely.

The staff memoranda as a whole did not contain sufficient detail to allow us to determine systematically what portion of each efficiency claim, measured in dollars, survived the efficiency review. In a number of matters, staff reduced the amount of the efficiencies credited from what the parties claimed. For example, if staff believed that only half of the claimed efficiencies could be adequately substantiated, the quantified savings would be reduced by 50 percent. Most matters lacked such quantification, however. In some instances, staff observed that the parties overstated their claims, but failed to specify the value that should be credited. In other instances, staff raised objections to one of several different types of efficiency savings grouped under one category, but did not reject the entire claim. Overall, therefore, we were not able to quantify the extent to which staff accepted a portion of the parties' efficiencies claims. Similarly, the nature

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efficiency claims for which staff made "no decision" and Table 5 tabulates the analyses for the claims that were rejected. The rows list the twelve categories of efficiencies into which we placed the claims. The final row tabulates the number of times the specific objection was raised by staff. The first data column contains the number of matters in which the particular type of claim was made. The following columns contain information on the eight categories of staff objections to those claims. (Because staff can consider multiple reasons for rejecting each efficiency claim, the first column does not contain a sum of the following eight columns for each row.). The figures in the text add the column totals for the specific explanations, as given in Tables 4 and 5.

of the staff analyses defied any quantitative analysis of the balancing of efficiencies against anticompetitive effects identified by the staff.

C. Conclusion

Parties usually present multiple efficiency claims in their efficiencies arguments. BC staff, however, do not reach final conclusions on the bulk of these claims. Almost a third of the claims are formally rejected, while a few claims are accepted. Numerous *Guidelines*-related reasons are advanced by BC staff as reasons for rejection or at least concern with efficiency claims, with verifiability and merger specificity used most frequently as the reasons for rejecting a claim.

The data regarding BC analysis shows that three types of claims (other fixed-cost, other variable-cost, and generic efficiencies) as relatively likely to be rejected. These three types of claims are the least specific with respect to the details of the efficiencies. The burden of advancing evidence to support efficiencies arguments rests on the merging parties, as that evidence is primarily in their control. The data suggest that parties would benefit from presenting more specific arguments in making their efficiency claims in order to avoid a higher likelihood the claims will be rejected. The type of efficiency claim (fixed versus variable) does not seem to affect the acceptance rate. Thus, parties should continue to advance fixed-cost claims when relevant. Finally, the evidence also supports, albeit weakly, the hypothesis that BC is relatively more likely to accept dynamic efficiency claims than other types of claims.

V. Bureau of Economics Analyses of Efficiencies Arguments

We reviewed the BE staff memoranda for the same information as we did for the BC staff memoranda. The BE staff wrote formal evaluations in 157 matters, jointly authored the memorandum with BC staff in another 6 mergers, and concurred with the BC staff's analysis in the remaining 23 matters.

A. Length of Efficiencies Discussion

The BE memoranda discussed efficiencies arguments in 118 matters. As with BC staff's presentations, the length of the analysis ranged from a few sentences to over 15 pages. Excluding the 45 memoranda that contained no discussion of efficiencies (and the 23 matters with no analysis at all), BE staff devoted an average of 2.3 pages to discussion of efficiency claims. We found 44 memoranda contained less than 1 page of discussion, while 10 matters included over 5 pages of material. The median page count was 1.3. When adjusted for the overall length of the memorandum, the mean percentage of each memorandum dedicated to efficiencies was 5.8 percent (the median was 3.4 percent), with 14 memoranda devoting less than 1 percent of the discussion and 14 matters having 10 percent or more of the discussion dedicated to efficiencies.

As was the case with the BC staff memoranda, some of the variance may be explained by the outcome of the matter. The mean number of pages devoted to efficiencies for PI matters was 3.50 pages (the median was 2.0 pages), while for closed matters, the mean number of pages was 2.67 (the median was 1.6 pages), and for matters that led to a consent decree, the mean was 1.76 pages (the median was 1.0 page).[38] The efficiency discussions were significantly longer in the PI matters than for the settled matters (t-statistic 2.26), but the PI and closed matters showed no significant difference in page count (t-statistic .79). Likewise, the settled matters did not contain significantly fewer pages than the closed matters (t-statistic 1.55).[39]

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[38] BE discussed efficiencies in all 17 PI matters, as well as in 63 of the 121 settled matters and 38 of the 48 closed investigations.

[39] The differences in the percentage of the memorandum dedicated to efficiencies does not

B. Treatment and Evaluation of Efficiency Claims

We categorized the type of efficiencies claims described in the BE memoranda in the same manner as we did for the BC staff memoranda, using the structure described in Section II above. This entailed a review of the number of claims raised by the staff, the different types of claims noted, and how the claims were treated.

The BE efficiency discussions averaged 2.6 claims per matter. The number of claims per memorandum decreased slightly during the studied period. Matters from the more recent period (April 2002 to March 2007) discussed fewer claims (2.32 per memorandum) than matters from the earlier period (2.85 claims). This difference is statistically significant (t-statistic 2.1).[40] Thus, BE appears to have identified fewer efficiencies claims per matter in recent years, unlike BC, which discussed similar numbers of claims during both periods. We are not able to provide an explanation for this change in BE staff's analyses.

As was the case for BC memoranda, BE staff identified differing numbers of claims depending on the ultimate outcome in the matter. Staff discussed an average of 2.17 claims in matters that ended in a consent decree. In comparison, the memoranda discussed 3.35 claims in matters in which a PI was recommended (whether the PI was sought or the merger abandoned) and 3.08 claims for matters ultimately closed. The mean for the PI matters is significantly larger than the mean for the settled matters (t-statistic 3.47). This result is not particularly surprising because BE staff are likely to devote fewer investigatory resources and less effort to matters that

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change with the case outcome. Settled matters have slightly shorter efficiency discussions and slightly shorter page counts.

[40] In Section II, we showed that the number of efficiency claims identified in the sample did not change over the ten-year period. Here, we find that BE discussed efficiencies in a slightly higher percentage of the reviewed matters in the second five-year period, but did not increase the overall number of efficiencies claims described. This means that the average number of claims per matter is relatively lower during the second five-year period, leading to a significant difference in claims per matter.

are on a track to result in a consent decree. By comparison, they are likely to devote greater analysis to matters in which the Commission may initiate litigation. The mean for closed cases is identical to that for PI matters (t-statistic .61), suggesting comparable BE effort in these types of cases.

We also undertook a more detailed review of BE staff's consideration of the 311 efficiencies claims that they discussed, as we did for the BC memoranda. For each efficiency claim, we noted whether BE staff accepted it, rejected it, or simply discussed it without making a conclusive decision. Table 3 shows that BE staff did not make a decision in the majority of claims (190 claims or 61.1 percent of the sample). BE staff accepted 84 efficiencies claims (27.0 percent) and rejected 37 claims (11.9 percent). Efficiencies appear more likely to be accepted in closed matters (36.8 percent) than in PI matters (28.1 percent) or matters resulting in a consent decree with the merging firms (18.3 percent). This result is significant when the mean for closed matters is compared to the mean for both PI matters and consent matters (t-statistic 2.98). Further testing shows the PI-matter mean for acceptance (28.2 percent) is not statistically different from that for the settled matters (18.3 percent) (t-statistic 1.42). Thus, BE, like BC, does not treat matters that propose some type of enforcement action (either a consent decree or a PI) differently.

We also calculated the acceptance and rejection rates for each type of claim. The most frequently claimed types of efficiencies were overhead savings and dynamic efficiencies, both identified in a little more than 40 percent of the 118 matters containing claims. Parties also frequently claimed facilities rationalization (42 findings, 36 percent of the sample), production-cost savings (31 findings, 26 percent of the sample), distribution-cost savings (29 findings, 25 percent of the sample), and raw-materials savings (28 findings, 24 percent of the sample).

Research and advertising efficiency claims appeared infrequently in the BE memoranda, as did other fixed- and other variable-cost claims. Eleven claims defied categorization, because these savings were described only in very general terms. Overall, the figures are substantially similar to those for the BC staff memoranda. This result confirms that BE and BC staff identified the same types of efficiencies.

The data revealed some variance in the likelihood that each particular type of efficiency claim would be accepted (or rejected) by BE staff. For example, BE staff accepted claims of dynamic efficiencies 43 percent of the time, a result higher than the mean acceptance rate of 24 percent for the other efficiencies. This difference is statistically significant (t-statistic 2.46). In contrast, research-and-development savings were rejected 29 percent of the time, although the percentage is not statistically different from the one for the rest of the sample (t-statistic 1.56). Likewise, BE did not accept a single generic efficiency claim. That is hardly a surprising result, however, because such claims are generally too vague to survive the scrutiny of a review based on the factors described in the *Merger Guidelines*. As was the case for the BC analyses, no one type of efficiency claims was uniformly rejected, suggesting that BE staff undertook a detailed review of the relevant efficiency considerations. As with the BC analysis, fixed-cost efficiencies (first five entries in Table 3) appear to have been accepted at the same rate as the variable-cost efficiencies (second five entries in Table 3) (t-statistic 1.62).

The BE staff memoranda, like the BC memoranda, contained detailed discussions critiquing the parties' efficiency claims. BE staff raised a total of 330 issues with the 227 efficiency claims that they did not accept.[41] BE staff expressed only a single issue of concern

[41] This information is contained in the last row of Tables 4 and 5. The second entry for each cell represents the BE tabulation. These numbers are summed to generate the results reported in the text.

with 149 of the 227 efficiency claims, and had more than one concern with 78 of the claims. These data are presented in Tables 4 and 5.

More specifically, staff raised verifiability with respect to 118 claims, merger specificity for 74 claims, and validity for 9 claims. Staff expressed concern that the claimed efficiency accrued outside the relevant market 25 times, and noted that the claimed efficiency led only to fixed-cost savings in 23 matters. BE staff noted that the claimed savings would not necessarily be passed along to consumers in 29 matters. BE staff objected to the efficiency claim without elaborating their concern for 51 claims. For BE, 1 concern defied classification. As was the case with the BC memoranda, we were not able to undertake a systematic study to estimate either the magnitude of the efficiencies that survived BE staff's analysis or how staff compared them with the expected anticompetitive effects of the merger.

C. Conclusion

BE staff generally reported multiple efficiency claims in each matter, although in many instances staff did not make a decision on whether to accept or reject the claim. As with BC staff's analysis, this likely results from complex nature of the claims. Overall, BE accepted over 1 of 4 efficiency claims, although this means that almost 3 in 4 claims were not completely accepted (few claims were totally rejected). BE staff most often raise verification as a concern with the efficiency claims.

The BE memoranda suggested that staff had substantial skepticism with respect to generic efficiencies, as these alleged savings had higher rejection rates than the overall sample of efficiency claims. On the other hand, BE staff were more willing to accept dynamic efficiency claims as compared to other types of efficiencies, a result suggesting BE looked relatively favorably on claims that a merger improved long-run competition in some respect. Fixed- and variable-cost efficiencies were accepted at a statistically identical rate.

VI. Comparison of the Staff Analyses

The BC and BE staff efficiency reviews have a lot in common, although the approaches taken by the staff differ in several important respects. We performed two types of comparisons. First, we compared the basic staff presentations, and, when appropriate, tested for underlying differences. Second, we compared BE staff's treatment of the efficiency concerns explicitly considered by BC staff, in order to create a claim-by-claim comparison. We supplemented this analysis with a review of how BC treats efficiency claims accepted by BE.

A. Overall Treatment of Efficiency Claims

Of the 147 matters in which at least one Bureau discussed efficiencies, 86 matters included efficiency discussions from both BC and BE.[42] BC wrote (alone) on another 29 matters, while BE wrote (alone) on 32 matters. The fact that only one Bureau wrote on a number of matters may reflect a division of labor between the two Bureaus, with one or the other agreeing to address any efficiencies arguments. It does not necessarily show that either Bureau systematically ignored efficiencies arguments in a particular matter.

As noted above, the BC staff utilized 5 pages to explain their efficiency analysis, while the economists produced only 2.3 pages. Although BC provided relatively more analysis in absolute terms, BE devoted slightly more discussion to efficiencies in relative terms. The average BE memorandum allocated 5.8 percent of the memorandum to efficiencies, while the average BC memorandum allocated a slightly smaller share of 5.2 percent. The data therefore do

42 Focusing on these 86 matters generates basically the same results for claims per investigation. BC averaged 3.23 claims, while BE noted a comparable average of 2.93 claims-per-case. These numbers are not statistically different (t-statistic 1.24).

not conclusively show whether one Bureau or the other provides more extensive discussion of efficiencies. Overall, these figures imply that work on efficiencies is, overall, relatively balanced between BC and BE staff, and the Commission receives comparable amounts of input from each Bureau with similar frequency.

A comparison between Tables 2 and 3 generates a range of insights. BE considered almost the same number of efficiency claims as BC (311 versus 342, respectively). The most fundamental difference between the two staffs is the substantial divergence in the efficiency acceptance rate. BE staff endorsed 27 percent of the claims considered, while BC accepted significantly fewer (8.48 percent) of the claims considered during the studied period (t-statistic 6.30). The BE acceptance rate remains higher across fixed-cost, variable-cost, and dynamic efficiencies; The only category that BC accepted more frequently is generic efficiencies (two instances for BC, none for BE). An opposite observation can be made for the rejection rate, as BE rejected 11.9 percent of the claims, while BC rejected a significantly higher 31.9 percent of claims (t-statistic 6.4). This result carries over to the fixed- and variable-cost categories; but small sample sizes prevent significant results for dynamic or generic efficiencies.

Abstracting from differences in the evaluations, the aggregate results show substantial similarities in their overall comprehensiveness. For example, BE notes overhead efficiencies in 44.1 percent of the matters (52 of 118) and BC reports these efficiencies in 52.2 percent of the matters (60 of 115); these rates are statistically indistinguishable (t-statistic 1.23). Reviewing the eleven other categories of efficiencies shows that BE is more likely than BC to report dynamic efficiencies (t-statistic 3.8). One possible explanation for this result is that dynamic-efficiencies claims tend to be more complex and economists have more advanced economic tools that allow them to assess the claims than do BC staff attorneys. In comparison, BC is more likely than BE to discuss generic efficiencies (t-statistic 1.86). One possible reason for this difference is that BE economists opt not to devote effort to addressing vague claims, whereas BC staff tends to do so in an effort towards comprehensiveness.

We also compared the use of specific considerations to evaluate efficiencies contained in each Bureau's memoranda. BC staff objected to a greater number of efficiencies claims than BE staff, with a larger number of objections. BC identified 553 concerns with 313 efficiency claims, or 1.77 concerns per claim. In comparison, BE set forth 330 concerns with 227 claims, or 1.45 concerns per claim. Thus for each claim, BC tended to have a greater number of concerns. Computationally, the difference is related to BE staff's tendency to focus on a single reservation. Confining the figures to efficiency claims for which staff expressed multiple concerns, BC staff identified an average of 2.4 concerns for each efficiency claim and BE staff noted 2.3 issues per efficiency claim. Thus, when the staff undertakes an extensive analysis of a given efficiency, the scope of the discussion appears almost identical.

We sought to determine whether either staff is more likely to use a particular reservation to limit the relevance of a specific efficiency. For example, BC mentions verification 187 times (59.7 percent) out of their 313 questioned efficiency claims, while BE mentions the same problem in 118 out of 227 questioned claims (52.0 percent). These ratios are statistically different (t-statistic 1.77). Both Bureaus' staffs were equally likely, on a percentage basis, to object to an efficiency on the grounds that it was (1) outside the market of concern and (2) a type of fixed-cost savings. Pass-through issues were much more likely to be a concern to BC than BE (compare 69 instances (22.0 percent) to 22 instances (12.8 percent); t-statistic for difference in rates is 2.85). Finally, BE staff are more likely than BC staff not to offer a reason for their concerns about an efficiency claim, failing to offer a reason 51 times (22.5 percent), whereas BC staff failed only 47 times (15.0 percent) to offer a reason for not accepting the claim (t-statistic for difference in rates is 2.15).[43]

Inspection of Tables 4 and 5 permit determination of how often each type of objection is raised with respect to a given type of efficiency. For example, BC staff and BE staff considered, but did not ultimately decide upon, a claim of overhead efficiencies 39 and 33 times, respectively. BC staff raised a question about the verifiability of this type of efficiency 20 times, or 51 percent of the time, and BE noted that concern 12 times, or 33 percent of the time. When combined with information from Table 5, one can obtain an even more robust picture of how staff treats such claims. For example, Table 5 shows that BC rejected overhead claims for verifiability reasons 9 of 18 times, while BE rejected the same type of claim in 3 of 7 cases. Accordingly, taking Tables 4 and 5 together, BC staff raised verifiability as a potential objection with respect to 29 of the 57 overhead claims it did not accept. For BE, the comparable number is 15 of 40 claims. These two tables allow the staff analyses to be compared at a much lower level of aggregation. However, the limited number of observations in each category makes it difficult to find statistically significant differences (for example, the difference between the BC and BE probability that verification is a concern for overhead savings is not significant (t-statistic 1.30)).

B. Claim-by-claim Comparison of Staff Treatment of Efficiencies

Another comparison we conducted focused on the concerns identified as potentially limiting the cognizability of an efficiency claim. We keyed our analysis to the BC staff memoranda, because BC reported more reservations, thereby allowing for a more comprehensive analysis. For each efficiency claim considered by BC staff, we compared BC's concerns to the

[43] The failure of staff to explain the reason for questioning the efficiency is a concern, because such rejections do not help senior staff and the Commission understand the precise reason for the rejection.

concerns raised by BE staff regarding that same claim. These comparisons permitted us to determine the level of agreement between the two staffs.

To make this claim-by-claim comparison of the treatment of efficiencies claims, we needed to evaluate each of the efficiency claims that BC staff did not accept. First, we identified each efficiency claim in a particular category of BC staff objection—for example, verifiability. Then we determined the following: (1) whether BE undertook any efficiency analysis in the matter in which BC addressed that claim; (2) if BE analyzed efficiencies in that matter, whether it analyzed the same claim that BC did not accept; (3) if BE examined the same claim analyzed by BC, whether BE raised the same objection as raised by BC; and, (4) if BE evaluated the same claim, whether BE accepted the efficiency claim, despite BC's failure to accept it. The results appear in Table 6. Each of the possibilities represents a different level of BE staff agreement (or disagreement) with the BC staff's analysis. The critical result is the percentage of cases in which both BC and BE suggest caution in accepting a given efficiency based on a particular *Guidelines* concern.

First, we checked to determine whether BE is systematically ignoring efficiencies when a specific concern was raised by BC staff. In other words, did BE not discuss efficiencies at all given BC staff's analysis focused on a specific problem with an efficiency claim. Row two of Table 6 shows that for all but the "no reason" category, BE is relatively likely to discuss efficiencies in matters in which BC raises specific concerns with efficiency claims. Thus, this shows that BE is at least considering some type of efficiencies in most of the matters in which BC undertook an efficiency evaluation.

The next analysis looks at the number of cases in which BE discussed the same efficiency as the one in which BC raised the identified concern. The aggregate count is given in row 3; it ranges from a low of 13 to a high of 100. The magnitude of this number must be judged relative to the number of BC concerns identified (row 1) or BE efficiency discussions (row 2). For example, while the number of BC validity discussions also mentioned by BE is small (14), the share of the BC validity findings discussed (60.9 percent) is higher than all the other categories but fixed-cost savings (71.9 percent).

We focused our analysis on comparing efficiency analyses for the objections of verifiability, merger specificity, validity, fixed costs, and consumer pass-through. We did not develop the data for efficiencies for which BC reported "no reason specified" and "out of market" concerns. For the "no reason specified" matters, BC failed to provide a detailed analysis of the claim, suggesting such claims were likely deemed not material to the outcome and therefore unworthy of extensive consideration. Understandably, BE appeared simply to ignore these claims (evaluating the efficiency in only 15 of 47 cases). The relatively low percentage of matches (13 of 41) for out-of-market concerns is more difficult to explain, however.[44] Regardless of reason, the result cautions against comparing the BC/BE agreement rate for out-of-market objections, because the BE analysis may be incomplete.

The "agreement rate" between BC and BE staff—that is, when BE staff noted the same concern with a given claim as BC staff—appears in the fifth row of Table 6. The BC-BE analytical agreement rate for the five categories of objections ranges from a high of 43.0 percent to a low of 14.3 percent (or 13.3 percent for the "no reason specified" category). While the difference between the agreement rates for verifiability (43.0 percent) and merger specificity (31.7 percent) is not statistically significant (t-statistic 1.57), the agreement rate on verifiability is

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[44] It is possible that BE considered the BC out-of-market concern dispositive and therefore did not bother to write anything about the claim, given the relative clarity of the out-of-market issue.

significantly higher than those for validity, fixed-cost, and pass-through concerns (t-statistics 2.55, 2.13, 2.19, respectively). Were both staffs to have similar understandings, we would expect these agreement rates to be more closely matched. The degree of divergence suggests that the two staffs do not share a completely similar approach to these reasons for concern regarding efficiencies, and that the dissimilarity is greatest for validity, fixed-cost, and consumer pass-through issues.

We also tested for any systematic difference in recommendations by considering the percentage of the efficiency claims about which BC expressed concern but that were accepted by BE. The figures fall within a narrow range, between 17.4 percent and 28.0 percent (33.3 percent for the "no reason specified" category), with none of the differences statistically significant. These figures suggest that BE is not less likely to accept an efficiency claim identified as problematic by BC depending on the reason BC gave for concern about the efficiency.

A final analysis checked the efficiency claims accepted by one Bureau to determine what the other Bureau did. BC accepted 29 efficiency claims. BE explicitly agreed with 19 of these claims and concurred in the BC analysis in another 4. BE failed to address efficiencies for 2 claims, generating an implicit agreement rate of 86 percent. BE failed to reach a conclusion on 2 claims and rejected the other 2 (one an overhead and the other a research savings efficiency). While this tabulation identifies minor differences of opinion, in general, BC efficiency determinations are backed up by BE conclusions.

When the comparison is reversed, however, the results are somewhat different. BE made 84 affirmative efficiency acceptances. BC staff agreed with 19 and did not object to another 26, generating an implicit agreement rate of 53.6 percent. BC staff raised concerns with another 29 and rejected 10. BC seemed to have concerns with both fixed- and variable-cost savings. BC did not, however, reject any of the dynamic-efficiency claims accepted by BE, agreeing with 5 claims, remaining silent on 13 claims, and making no decision on the other 3 efficiencies accepted by BE.

By matching up the core analyses of the staff memoranda on an efficiency-by-efficiency basis, it is possible to highlight some differences in the application of the *Guidelines* principles. The differences are larger in the areas where the *Guidelines* offer less guidance for the analysis required to evaluate an efficiency claim. Further elaboration on these points should aid the consistency of the staff analysis and may help outside parties in crafting their presentations.

VII. Conclusion

This study of FTC staff analyses of efficiency claims in merger matters undertaken during the ten years following the 1997 revision of the *Merger Guidelines* shows substantial consistency in how the Commission staff has treated efficiency arguments. Overall, staff consider a wide range of efficiencies arguments made by the parties, but in most instances only identify potential concerns without conclusively determining whether the claimed efficiency should be accepted or rejected. The staff memoranda from the Commission's Bureaus are clearly synergistic, as the analyses taken together give a much more complete view of the efficiency issues than either memorandum taken individually. Moreover, the memoranda provide the Commission with two perspectives, as the analyses are not usually identical (but appear more similar where staff have concerns about verification or merger specificity). As a result, despite the lack of a conclusive decision or recommendation by staff, the staff efficiency analyses are generally thorough and provide the Commission with the information necessary for its enforcement decision.

Overall, BE staff tend to be more willing to accept efficiency claims than BC staff. While the data do not allow us to attribute this to any particular reason, we speculate that it likely results from BE's focus on the economic plausibility of efficiencies as compared to BC's focus on whether the evidence of efficiencies would be sufficient in litigation. With two somewhat differing perspectives, the Commission is ultimately left to balance the weight of the evidence in making its enforcement decision.

TABLE 1

Number of Efficiency Claims Identified by Staff
(April 1997–March 2007)

Source	Matters with Claims	Number of claims identified in matter						
		0	1	2	3	4	5	≥6
BC Staff memoranda	115	71	34	15	24	19	13	10
Recent (4/02–3/07)	44	29	13	7	10	6	6	2
Older (4/97–3/02)	71	42	21	8	14	13	7	8
BE Staff memoranda	118	68	29	34	23	21	7	4
Recent (4/02- 3/07)	47	26	14	16	9	4	4	0
Older (4/97-3/02)	71	42	15	18	14	17	3	4

Source: Review of Bureau of Competition and Bureau of Economics staff memoranda.

TABLE 2

Identification of Efficiency Claims
by Bureau of Competition Staff
(April 1997–March 2007)

	Total Claims	No Decision	Accept		Reject	
			No.	Pct.	No.	Pct.
Fixed-Cost Efficiencies						
Overhead Efficiencies	60	39	3	5%	18	30%
Facilities Rationalization	52	30	6	12%	16	31%
Research Efficiencies	15	8	2	13%	5	33%
Advertising Efficiencies	19	14	0	0%	5	26%
Other Fixed-Cost Savings	17	9	1	6%	7	41%
Variable-Cost Efficiencies						
Production Efficiencies	35	20	5	14%	10	29%
Distribution Efficiencies	28	19	1	4%	8	29%
Raw-Materials Savings	40	24	1	3%	15	38%
Best-Practices Efficiencies	24	18	3	13%	3	13%
Other Variable-Cost Savings	7	3	0	0%	4	57%
Other Efficiencies						
Dynamic Efficiencies	22	11	5	23%	6	27%
Generic Efficiencies	23	9	2	9%	12	52%
Total Claims	342	204	29	8%	109	32%

Source: Tabulation of information in Bureau of Competition staff memoranda.

TABLE 3

Identification of Efficiency Claims
by Bureau of Economics Staff
(April 1997–March 2007)

	Total Claims	No Decision	Accept		Reject	
			No.	Pct.	No.	Pct.
Fixed-Cost Efficiencies						
Overhead Efficiencies	52	33	12	23%	7	13%
Facilities Rationalization	42	30	8	19%	4	10%
Research Efficiencies	17	8	4	24%	5	29%
Advertising Efficiencies	14	9	3	21%	2	14%
Other Fixed-Cost Savings	9	6	1	11%	2	22%
Variable-Cost Efficiencies						
Production Efficiencies	31	17	12	39%	2	6%
Distribution Efficiencies	29	20	7	24%	2	7%
Raw-Materials Savings	28	19	7	25%	2	7%
Best-Practices Efficiencies	23	14	7	30%	2	9%
Other Variable-Cost Savings	6	4	2	33%	0	0%
Other Efficiencies						
Dynamic Efficiencies	49	22	21	43%	6	12%
Generic Efficiencies	11	8	0	0%	3	27%
Total Claims	311	190	84	27%	37	12%

Source: Tabulation of information in Bureau of Economics staff memoranda.

TABLE 4

Concerns Identified with Efficiency Claims for which FTC Staff Made "No Decision"

Type of Efficiency	Number of Claims (BC/BE)	Concern identified (BC/BE)							
		Verifiability	Merger Specificity	Validity	Out of Market	Fixed Costs	Absence of Pass-through	Other	No Reason Specified
Fixed-Cost Efficiencies									
Overhead Efficiencies	39/33	20/12	8/7	2/2	6/5	8/7	12/4	0/0	8/12
Facilities Rationalization	30/30	15/15	11/9	1/2	4/3	6/5	10/5	1/0	8/6
Research Efficiencies	8/8	5/4	3/1	1/1	1/2	0/0	1/0	0/0	3/1
Advertising Efficiencies	14/9	8/5	4/2	4/0	0/1	1/2	3/2	0/0	4/2
Other Fixed-Cost Savings	9/6	4/2	6/1	2/1	2/0	4/1	1/0	0/0	1/2
Variable-Cost Efficiencies									
Production Efficiencies	20/17	13/12	9/4	1/0	0/0	0/0	4/2	0/0	3/3
Distribution Efficiencies	19/20	11/11	6/7	1/0	2/2	2/0	6/1	0/0	4/6
Raw-Materials Savings	24/19	16/11	12/6	0/0	2/1	0/1	4/2	1/1	6/5
Best-Practice Efficiencies	18/14	11/8	9/2	0/0	2/1	1/0	4/0	0/0	5/5
Other Variable-Cost Savings	3/4	2/0	3/0	0/0	1/0	0/1	1/1	0/0	0/3
Other Efficiencies									
Dynamic Efficiencies	11/22	8/10	6/7	0/0	1/3	0/2	2/1	0/0	2/6
Generic Efficiencies	9/8	5/8	1/4	1/0	2/2	1/2	1/0	0/0	3/0
Total	204/190	118/98	78/50	13/6	23/20	23/21	49/18	2/1	47/51

Source: Tabulation of information in Bureau of Competition and Bureau of Economics staff memoranda.

TABLE 5

Concerns Identified with Efficiency Claims that FTC Staff "Rejected"

Type of Efficiency	Number of Claims (BC/BE)	Concern identified (BC/BE)							
		Verifiability	Merger Specificity	Validity	Out of Market	Fixed Costs	Absence of Pass-through	Other	No Reason Specified
Fixed-Cost Efficiencies									
Overhead Efficiencies	18/7	9/3	11/5	4/2	2/0	2/1	6/3	0/0	0/0
Facilities Rationalization	16/4	11/3	10/3	3/0	4/0	2/0	2/2	0/0	0/0
Research Efficiencies	5/5	4/3	3/2	1/0	1/1	0/0	0/0	0/0	0/0
Advertising Efficiencies	5/2	3/0	3/1	2/1	1/0	1/1	1/1	0/0	0/0
Other Fixed-Cost Savings	7/2	3/0	7/2	0/0	0/0	1/0	1/0	0/0	0/0
Variable-Cost Efficiencies									
Production Efficiencies	10/2	6/1	9/2	0/0	0/1	0/0	1/1	0/0	0/0
Distribution Efficiencies	8/2	6/1	7/2	0/0	3/0	0/0	2/1	0/0	0/0
Raw-Materials Savings	15/2	12/2	10/1	0/0	1/0	2/0	2/1	0/0	0/0
Best-Practice Efficiencies	3/2	1/1	2/1	0/0	1/0	0/0	1/0	0/0	0/0
Other Variable-Cost Savings	4/0	3/0	1/0	0/0	1/0	0/0	0/0	0/0	0/0
Other Efficiencies									
Dynamic Efficiencies	6/6	2/3	4/3	0/0	1/2	0/0	0/1	0/0	0/0
Generic Efficiencies	12/3	9/3	7/2	0/0	3/1	1/0	4/1	0/0	0/0
Total	109/37	69/20	74/24	10/3	18/5	9/2	20/11	0/0	0/0

Source: Tabulation of information in Bureau of Competition and Bureau of Economics staff memoranda.

TABLE 6

Comparison, Claim by Claim, of BC and BE Staff Discussions
(Claims included those Questioned ("No Decision") or Rejected by BC Staff)

	Verifiability	Merger Specificity	Validity	Out of Market	Fixed Costs	Absence of Pass-through	No Reason Specified
Number of times a concern was raised by BC staff	187	152	23	41	32	69	47
Number of times BE discussed any efficiency in the same matter	158	137	20	33	29	61	27
Number of times BE evaluated the specific efficiencies claim identified by BC	100	82	14	13	23	41	15
Number of times BE had the same concern with same claim	43	26	2	2	5	10	2
(Percentage)	43.0%	31.7%	14.3%	15.4%	21.2%	24.4%	13.3%
Number of times BE accepted the claim	25	23	3	3	4	11	5
(Percentage)	25.0%	28.0%	21.4%	23.1%	17.4%	26.8%	33.3%

Source: Tabulation of information in Bureau of Competition and Bureau of Economics staff memoranda.

APPENDIX A

EFFICIENCIES RETROSPECTIVE

REVIEW OF EFFICIENCIES ARGUMENTS AND DISCUSSION

Name of reviewer/coder: ____________________

I. BACKGROUND:

1. Name of matter:

2. Matter number:

3. Documents Reviewed

   White Paper: **Y** **N**
   BC Memo: **Y** **N**
   BE Memo: **Y** **N**

4. Shops involved — Circle if only one joint memo

   a. BC shop originating memorandum [**check**]:
   ❑ M1 ❑ M2 ❑ M3 ❑ M4 ❑ AP ❑ HC ❑ RO:_____ ❑ Other:_____

   b. BE shop originating memorandum [**check**]:
   ❑ BE1 ❑ BE2 ❑ Other:_____

5. Total size of transaction:

6. Nature of Transaction [**check**]:

   ❑ Vertical ❑ Vertical, with horizontal components
   ❑ Horizontal ❑ Horizontal, with vertical components
   ❑ Other (describe):

7. Outcome (circle): **PI** **Consent** **Closed** **BC SUE**
   ❑ (check if abandoned by parties) **BE SUE**

8. Date of final Commission action: __________

II. PRESENCE OF EFFICIENCIES ARGUMENTS

9. Are any efficiencies claims identified (*i.e.*, mentioned at all) in the white paper? **Y N**

10. Did the white paper discuss or argue, or did staff credit the parties as claiming, the following efficiencies would result from merger? "Amount" is value of efficiencies claimed; if discounted to present value or provided as stream of values over time, so indicate in notes. Be sure to distinguish between one-time savings and annual savings. In notes, specify whether source of claim is the white paper or the staff memo.

<u>Fixed-cost efficiencies</u>:

a) Overhead reductions (personnel, office space, management, etc.) **Y N**
Amount:_________
Notes:

b) Facilities rationalization (*e.g.*, plant closings or expansion) **Y N**
Amount:_________
Notes:

c) R&D **Y N**
Amount:_________
Notes:

d) Advertising **Y N**
Amount:_________
Notes:

e) Other (describe:______________) **Y N**
Amount:_________
Notes:

[if additional "other" efficiencies, use separate sheet and denote as e1, e2, *etc.*]

Marginal-cost efficiencies:

f) Production cost reductions **Y N**

Amount:_________

Notes:

g) Distribution cost reductions **Y N**

Amount:_________

Notes:

h) Raw-materials cost reductions (including bulk/volume discounts) **Y N**

Amount:_________

Notes:

i) "Best practices" (new techniques) **Y N**

Amount:_________

Notes:

j) Other (describe:______________) **Y N**

Amount:_________

Notes:

[if additional "other" efficiencies are advanced, use separate sheet and denote as j1, j2, *etc.*]

11. "Dynamic" or "strategic" efficiencies: Were any efficiency claims identified that suggest the merged entity will be able to compete more effectively against a dominant firm? **Y N**

Amount:_________

Notes:

12. Generic or General Treatment of Efficiencies **Y N**

Amount:_________

Notes:

III. EVALUATION OF BC STAFF MEMO EFFICIENCIES DISCUSSIONS

13. For each of the categories of efficiencies (identified in part in Section II, items 10-12), specify whether, in the BC memo, it was Accepted (**A**), Rejected (**R**) or Not Decided (**ND**). If the BC memo treats all efficiencies claims together (for example, rejecting all of them on the same ground), then explain the basis (or bases) for that decision in the space provided below in question 13.l. Dynamic or Strategic efficiencies (see question 11) are noted in question 13.k. If the BC memo accepted the efficiency claim, circle "**A**." If memo credited less than the full amount of the claimed efficiency or otherwise qualified its acceptance, note that fact as well as both claimed and credited amounts. If the BC memo rejected the claimed efficiency, circle "**R**," and identify the reason(s), by number: **1**) Not substantiated or not verifiable; **2**) Not merger-specific; **3**) Not cognizable (arise from anticompetitive effects of merger); **4**) Efficiencies accrue outside relevant market/market of antitrust concern; **5**) Efficiency would reduce only fixed costs; **6**) None of efficiency gains would be passed on to consumers, **7**) Other (describe in notes). In "Notes" section, summarize reasoning of staff as to why rejection was justified (*e.g.*, parties' claims that they would realize savings from reduction in advertising is not cognizable, because advertising is generally considered to be procompetitive). If the BC memo considers whether to reject an efficiency on one of these grounds, but does not make an explicit decision to reject the claim, then circle "**ND**" and specify the reason(s) considered, by number. Thus, even if the staff memo **suggests** that the efficiency claims should be rejected, but does not actually state that conclusion, the correct answer is "**ND**." If the BC memo does not discuss any reasons for rejection, and simply observes existence of efficiency claims while not deciding the validity of any claims, so indicate by circling **ND** and using the number "**0**." *A given efficiency could be rejected or not decided on several grounds; accordingly, there may be several reason codes for **R** or **ND**.*

<u>13.a</u> (overhead reductions, management) **A** **ND: ______** **R: ______**
Notes:

<u>13.b</u> (facilities rationalization) **A** **ND: ______** **R: ______**
Notes:

<u>13.c</u> (R&D) **A** **ND: ______** **R: ______**
Notes:

<u>13.d</u> (advertising) **A** **ND: ______** **R: ______**
Notes:

13.e (other fixed costs) **A** **ND:** ______ **R:** ______
Notes:

13.f (production cost reductions) **A** **ND:** ______ **R:** ______
Notes:

13.g (distribution cost reductions) **A** **ND:** ______ **R:** ______
Notes:

13.h (raw-materials cost reductions) **A** **ND:** ______ **R:** ______
Notes:

13.i (best practices) **A** **ND:** ______ **R:** ______
Notes:

13.j (other marginal costs) **A** **ND:** ______ **R:** ______
Notes:

13.k (dynamic) **A** **ND:** ______ **R:** ______
Notes:

13.l (generic treatment) **A** **ND:** ______ **R:** ______
Notes:

14. Did the BC memo apply a standard for balancing the efficiencies with the anticompetitive effects that were expected to result (*e.g.*, post-merger prices, social welfare)? Describe standard in notes, and, if more than one standard was suggested, indicate whether the recommendation would differ depending on the standard selected. Note "pass-through" if relevant **Y N**
Notes:

15. How extensive was the memo's discussion of efficiencies? (Express in terms of page length for efficiencies discussion and memo.) [circle if double spaced]
Efficiency Discussion: _____ Pages Total Memo: _____ Pages

III. EVALUATION OF BE STAFF MEMO EFFICIENCIES DISCUSSIONS

16. For each of the categories of efficiencies (identified in part in Section II, items 10-12), specify whether, in the BE memo, it was Accepted (**A**), Rejected (**R**) or Not Decided (**ND**). If the BE memo treats all efficiencies claims together (for example, rejecting all of them on the same ground), then explain the basis (or bases) for that decision in the space provided below in question 21.l. Dynamic or Strategic efficiencies (see question 11) are noted in question 21.k. If the BE memo accepted the efficiency claim, circle "**A**." If memo credited less than the full amount of the claimed efficiency or otherwise qualified its acceptance, note that fact as well as both claimed and credited amounts. If the BC memo rejected the claimed efficiency, circle "**R**," and identify the reason(s), by number: **1**) Not substantiated or not verifiable; **2**) Not merger-specific; **3**) Not cognizable (arise from anticompetitive effects of merger); **4**) Efficiencies accrue outside relevant market/market of antitrust concern; **5**) Efficiency would reduce only fixed costs; **6**) None of efficiency gains would be passed on to consumers, **7**) Other (describe in notes). In "Notes" section, summarize reasoning of staff as to why rejection was justified (*e.g.*, parties' claims that they would realize savings from reduction in advertising is not cognizable, because advertising is generally considered to be procompetitive). If the BE memo considers whether to reject an efficiency on one of these grounds, but does not make an explicit decision to reject the claim, then circle "**ND**" and specify the reason(s) considered, by number. Thus, even if the staff memo **suggests** that the efficiency claims should be rejected, but does not actually state that conclusion, the correct answer is "**ND**." If the BE memo does not discuss any reasons for rejection, and simply observes existence of efficiency claims while not deciding the validity of any claims, so indicate by circling **ND** and using the number "**0**." *Note: A given efficiency could be rejected or not decided on several grounds; accordingly, there may be several reason codes for **R** or **ND**.*

16.a (overhead reductions, management) **A** **ND:** ______ **R:** ______
Notes:

16.b (facilities rationalization) **A** **ND:** ______ **R:** ______
Notes:

16.c (R&D) **A** **ND:** ______ **R:** ______
Notes:

16.d (advertising) **A** **ND:** ______ **R:** ______
Notes:

16.e (other fixed costs) **A** **ND:** ______ **R:** ______
Notes:

16.f (production cost reductions) **A** **ND:** ______ **R:** ______
Notes:

16.g (distribution cost reductions) **A** **ND:** ______ **R:** ______
Notes:

16.h (raw-materials cost reductions) **A** **ND:** ______ **R:** ______
Notes:

16.i (best practices) **A** **ND:** ______ **R:** ______
Notes:

16.j (other marginal costs) **A** **ND**: ______ **R:** ______
Notes:

16.k (dynamic) **A** **ND:** ______ **R:** ______
Notes:

16.l (generic treatment) **A** **ND:** ______ **R:** ______
Notes:

17. Did the BE memo apply a standard for balancing the efficiencies with the anticompetitive effects that were expected to result (*e.g.*, post-merger prices, social welfare)? Describe standard in notes, and, if more than one standard was suggested, indicate whether the recommendation would differ depending on the standard selected. Note "pass-through" if relevant **Y N**
Notes:

18. How extensive was the memo's discussion of efficiencies? (Express in terms of page length for efficiencies discussion and memo.) [circle if double spaced]

Efficiency Discussion: _____ Pages Total Memo: _____ Pages