ECONOMIC ISSUES

TRANSPARENCY AT THE FEDERAL TRADE COMMISSION: THE HORIZONTAL MERGER REVIEW PROCESS 1996-2003

by

Malcolm B. Coate
and
Shawn W. Ulrick

Bureau of Economics
Federal Trade Commission
February 2005

FEDERAL TRADE COMMISSION

DEBORAH PLATT MAJORAS	Chairman
ORSON SWINDLE	Commissioner
THOMAS B. LEARY	Commissioner
PAMELA JONES HARBOUR	Commissioner
JON LEIBOWITZ	Commissioner

BUREAU OF ECONOMICS

Luke M. Froeb	Director
Mark W. Frankena	Deputy Director for Antitrust
Paul A. Pautler	Deputy Director for Consumer Protection
Timothy A. Deyak	Associate Director for Competition Analysis
Pauline M. Ippolito	Associate Director for Special Projects
Robert D. Brogan	Assistant Director for Antitrust
Louis Silvia	Assistant Director for Antitrust
Michael G. Vita	Assistant Director for Antitrust Mark W. Fr

ACKNOWLEDGMENTS

We would like to thank David Scheffman, Paul Pautler, Elizabeth Callison, and Jeffrey Fischer for helpful comments on the project and Anthony Alcorn, Brian Cross, Fulvio Cajina, Paul Golaszewski, Wendy Hanson, Karl Kindler, Michael Madigan, Madeleine McChesney, Joseph Remy, and especially, Matthew Tschetter, for research assistance in assembling the data.

TABLE OF CONTENTS

EXECUTIVE SUMMARY

This paper empirically analyzes the Federal Trade Commission's merger enforcement decisions, to supplement the 2004 release of the Horizontal Merger Investigation Data. The study provides insights into the review process for both multi- and single-market mergers. We present concentration-based models, customized to the relevant industry, for mergers with large numbers of overlaps. When more detailed data is available (for mergers with 3 or fewer overlaps), the analyses also focus on additional factors. We find evidence to suggest that, in addition to market structure, verified customer complaints and entry considerations also affect the enforcement decision. Finally, the study notes that the Commission's enforcement policy has been stable during the 1996 through 2003 time period.

I. INTRODUCTION

Government policy is more effective when the enforcement regime is transparent, because the economy benefits from the resulting reduction in transactions costs.[1] The Federal Trade Commission has long worked to promote transparency through a number of formal and informal programs. Examples include detailed notices to aid public comment, press releases that clarify reasons for specific decisions, policy statements in speeches, and several research projects.[2] To further increase the information available to the public, the Commission recently initiated the Merger Policy Transparency Project, a

this review was used to create the publicly released tables and is used in this paper to estimate various enforcement models. After a brief background on the cases reviewed, this section describes the data collection process used in the Project.[5]

The data review process started with the universe of all Hart-Scott-Rodino second requests issued by the Federal Trade Commission during the review period (*i.e.*, the 281

be linked to concentration, but

The collection of the data on the number of significant competitors was more complicated.[10] The process started with the review of market share table and then identified the significant rivals from the relevant discussion of competition. The operative definition of a significant competitor was a firm whose independence could affect the ability of the merged firms to achieve an anticompetitive outcome. If the relevant anticompetitive theory was post-merger coordinated interaction (collusion), a significant competitor would be noted as a required participant in the collusive group. Alternatively, if the relevant theory was based on unilateral market power, a significant competitor would be identified as a close rival to the merging parties. The number of pre-merger significant rivals was identified for 570 of the 780 markets having useable Herfindahl data.[11]

Institutional variables related to each market included the enforcement outcome, an index linked to the date of the enforcement decision, and indicator variables for selected industries. For most mergers, coding the Commission's decision was straight-forward, because the investigation of the relevant markets led to either an enforcement action or a formal closing decision. On occasion, the parties abandoned their deal at the

index was based on the date of the final FTC decision, which was almost always contemporaneous with the receipt of the final memoranda. This index variable made it possible to compute a binary variable to distinguish the Chairmanships of Robert Pitofsky and Timothy Muris. The industry classifications (*i.e.*, oil, grocery, and chemical) were obvious, given the products under review.

Four additional variables - hot documents, customer complaints, and two variables related to barriers to entry - were collected for a subset of the data.[13] A hot document was assumed to exist when the staff presentation noted a document, submitted by one of the merging parties, projecting that the merger would result in an adverse price or non-price effect on competition in the relevant market. The typical example involved an internal document predicting the merger would lead to a direct price increase. Documents were also considered "hot" when the inference of a price (or non-price) effect from the merger was obvious from the document. For example, a document that detailed how one of the merging parties had driven the competitive process through its interactions with the other party would support the inference that this competition would be lost by the merger. Documentary evidence of "close" rivalry between the parties, while informative to the merger analysis, was insufficient to trigger the hot document classification, because the documents did not address the post-merger competitive environment.

The files were also reviewed to obtain insights into the competitive concerns raised by the customers who tended to support enforcement action. The staff memoranda were analyzed to determine which cases exhibited strong customer complaints, and this

[13] This review is focused on 93 transactions which

information was recorded in a binary variable. In general, staff offered some evaluation of the customer feed-back passed on to the Commission. If the concerns were rejected as incompatible with a theory of competitive harm or if the evidence was quite mixed (indistinguishable customers presenting opposite opinions), staff cautioned against heavily weighting the customer complaint in the final decision.[14] Therefore, the customer complaints variable was coded to reflect no viable customer complaints. In other cases, the staff verified the concerns raised by customers. These matters were recorded as strong customer complaints.

The final two variables addressed barriers to entry, a factor which would be expected to increase the probability of enforcement. To create these variables, the memoranda were reviewed for evidence on the three characteristics of entry: timeliness, likelihood, and sufficiency. Each characteristic

of entry considerations observed to be problematic increased from 1 to 2 to 3. For example, if the staff analysis only claimed timeliness precluded entry in response to less than competitive pricing, but that analysis had discounted a specific method of quick entry, it could be still be logical for others to conclude that entry would occur. However, the error in the timeliness analysis would have no impact on the bottom line when the entry analysis also included a strong argument suggesting that entry would not be likely in response to a price increase. Thus, the sum of the number of entry conditions indicating entry impediments could represent a proxy for the overall strength of the available entry evidence.

III. Overview of the Data

Table 1 presents means for the variables, classified into two data sets and separated by outcome. The first data set is limited to the 570 market sample for which all the market structure data could be obtained. The second data set consists of the 128 observations sub-sample, for which more detailed data could be efficiently collected from the files.

In the full (570 observation) sample, the means of both the Herfindahl and the change in the Herfindahl are significantly higher, and the average number of pre-merger rivals is significantly lower, when the matter ends in enforcement action. An industry dummy variable shows enforcement action is under-represented in the oil industry, however, if the 198 oil investigations excluded from the study are considered, this under-

representation disappears.[15] Finally, no statistical difference in enforcement rates attaches to the Muris administration.

In the small sample, the means of the standard concentration variables, along with hot documents, customer complaints, and both barrier to entry variables are all significantly different in the expected direction when the sample is split by outcome. In

The expected industry-related differences are found in the data.[16] For the 442 observation sub-sample, the average Herfindahl is significantly higher for enforced markets in "other" industries (column 4) than it is for the enforced matters in the oil and grocery industries. In contrast, the difference is not significant for the chemical industry. Similar results are found for the closed matters, although the difference is less significant for the grocery industry, and too few chemical cases closed to allow for formal testing.[17] Testing for industry-specific differences in the small sub-sample is precluded by the limited number of observations, but general differences can also be seen in the values of the means.

IV. Modeling the Enforcement Decision

Once a second request is issued, many FTC stakeholders are interested in predicting the probability of an enforcement challenge. The publicly available tabulations of the merger enforcement data allow the calculation of rough estimates for merger challenge probabilities by simply computing historical sample means. However, the tabulations allow the predictions to focus on at most a couple of variables at a time. For example, one approach would base predictions on the Herfindahl and the change in Herfindahl information, but would have to exclude the data on the number of rivals. Similarly, another prediction could include information on rivals, but would have to exclude information on the Herfindahls. Moreover, predictions could only be made for rather coarse categories of the Herfindahl and the change in Herfindahl but not for

[16] A cursory review of the data released in the Merger Transparency Project shows enforcement is more aggressive in the oil, grocery and chemical industries. See Merger Transparency Data, supra note 3 at Tables 3.1 to 3.6 and 4.1 to 4.6.

[17] Similar results are found if the tests are applied to numbers of significant rivals.

the model is estimated (the variables are defined as Log-HHI, Log-Change, and Log-Rivals). Another adjustment adds an interaction term (Log-Interaction) to the model. This variable multiplies the log of the change in the Herfindahl by the log of the Herfindahl and allows the model to better predict results for common values of the variables (this will also be discussed in more detail in Section V). These four structural variables, along with various industry identifiers (*i.e.*, for the chemical, oil, and grocery industries),[19] form the core of the model, and are used to determine which of the variables impact the enforcement decision. The likelihood of enforcement is expected to rise with increases in the Herfindahl and its change and fall as the number of significant rivals increases.

A variant of the core model includes a binary variable associated with the regime shift from Chairman Pitofsky to Chairman Muris in June of 2001. To reflect the change in management, the indicator variable (Muris) was assigned to 0 for all cases decided before June 2001 and then switched to one for all cases decided after June 1, 2001. This variable allows a test of whether political leadership affected antitrust enforcement.[20]

Another hypothesis addresses the question of whether enforcement standards change with the Agency's workload. HSR filings increased dramatically from 1996 through 2000 and budget restrictions prevented the FTC from significantly expanding staff. Thus, workload changed materially over this time period. For the last few years,

[19] The public release tabulated data for four industries (oil, grocery, chemical and pharmaceutical). However, the pharmaceutical concentration data mirrore

filings have fallen, and therefor

workload. The impact of a workload variable on enforcement decisions is clearly an empirical issue.

Concentration data, even supplemented with industry and temporal dummy variables, is only the starting point for the standard Commission analysis. The Merger Guidelines mandate a detailed evaluation of the competitive interactions in the market, including analysis that may identify hot documents or customer concerns.[22] Moreover, merger analysis generally entails a hypothetical analysis of entry.[23] As information on these considerations was available in the 128 observation sub-sample, it was possible to supplement the concentration-based study with a more detailed evaluation of the small sample to offer more insights into the merger review process.[24]

V. Econometric Study of the Data

We estimate an econometric model of the Federal Trade Commission's decision making process to predict the outcome of a merger investigation. As the Commission's basic decision is to either challenge a merger or allow a transaction to be consummated,[25] the econometric analysis should use a model that allows for binary outcomes. We use a logit technique.[26, 27]

Within the logit procedure, we apply a logarithmic transformation to the raw Herfindahl, change in Herfindahl, and number of significant rival data to change the shape of the logit function. The resulting properties of the log-transformation are more desirable than a model measuring the relevant variables in levels and also seemed to fit the data much better.[28] As the relationship between the Herfindahl and change in the Herfindahl may also lead to highly nonlinear effects, another concentration-related index (Log-Interaction) is used to allow for a broad range of nonlinear relationships in the model. At extreme values (either very low or very high structural variables) the

[25] In most cases, when the Commission challenges a merger, the overall transaction is allowed to proceed after the acquiring firm enters into a settlement to resolve the competitive concerns.

[26] Probit models are also widely used. We chose the logit since its closed form solution simplified the implementation of our graphical analysis.

[27] Our procedure uses clustered standard errors, because many mergers involved multiple overlaps. The clustering procedure allowed for the relationship among the related observations.

[28] Since the logit function is nonlinear and bounded, the impact of using logs to predict enforcement should be explained by first discussing the effect of the logs on the index of the logit function. For example, when using log Herfindahls, the difference in the value of the index between Herfindahls of 5000 and 7000 (a 2000 point dih6epr

interaction term may cause a trivial distortion of the real relationship, but its use may allow the model to better predict results for moderate values of the variables.[29] The resulting model has an S-shaped functional form. These four structural variables, along with various industry identifiers (*i.e.*, for the chemical, oil, and grocery industries), form the core of the model.

As two data sets were gathered, the statistical analysis will take place in two stages, first focusing on the large data set and then on the small data set. In addition, one model will be estimated with the data excluded from the small sample. For each model, the statistical significance of the parameters is discussed below.

Table 3 focuses on the structural data for the large, 570 observation, sample and presents the results of four different specifications. The first model in the table (column 1) defines a standard model of concentration in which the Herfindahl, the change in Herfindahl, their interaction, and the number of significant rivals affects the enforcement decision. This equation also includes the industry controls. Statistical tests of the coefficients identify all the parameters as significant. Therefore, all four structural variables appear to impact the enforcement decision. Moreover, the positive and significant coefficients of the industry dummy variables suggest differences in the enforcement regimes faced by the three selected industries (oil, groceries, and chemicals).[30] For example, setting the number of rivals to four and the Herfindahl and the change in the Herfindahl to 3360 and 810, respectively (their full sample means for

[29] To the extent the interaction term introduces error in these predictions, the effect is trivial as the impact is at the edge of the data (*i.e.*, at rather large values of the Herfindahl and the change in Herfindahl). For example, the model might predict a 98.7% percent chance of enforcement at a very high level of the Herfindahl and a *low* level of the change in Herfindahl, while the model might predict a 97% chance of enforcement at a very high level of the Herfindahl and a *high* level of the change in Herfindahl.

[30] The result could be generated by a selection issue, as oil, grocery and chemical cases destined to close might not warrant a second request in light of the Commission's expertise in these markets.

four significant rivals), predicts an enforcement probability of 97 percent for an oil merger, 93 percent for a chemical merger, 92 percent for a grocery merger, but only 57 percent for industries in the other category.

An unreported regression examines the industry-specific coefficients of the concentration variables. Specifically, the core model was expanded to include separate concentration variables for each industry: oil, grocery, chemical, and other.[31] A Wald test rejects the hypotheses that the coefficients of the concentration variables are equal across industries.[32] The most notable difference involves the variable denoting the number of significant pre-merger rivals. This variable is statistically insignificant in the oil and grocery industries but significant for chemical and other industries. Moreover, the coefficients on the concentration variables are more likely to support enforcement in the oil and grocery industry. Thus, the industry-level concentration coefficients suggest that the pooled model in Table 3 reflects a general overview of the enforcement process, but that the model may not be the best representation for a specific analysis.

Columns 2 through 4 analyze how merger policy changes in response to differences in political leadership and agency workload. An indicator variable for the Muris Chairmanship is introduced in column 2, and two variables intended to proxy for workload - the ratio of merger filings to full-time equivalents and the log of the number of merger filings - are introduced in columns 3 and 4. The coefficients of these variables are not statistically significant, and the inclusion of any particular variable does not substantially alter the impact of the other exogenous variables. Thus, the results are

[31] The core model already allows for different intercepts.

[32] Chi-square statistic is 29.9 which is greater than the critical statistic of 21.0 for 12 restrictions.

suggestive that merger enforcement policy has remained relatively stable during the 1996 to 2003 time period.

Table 4 examines how enforcement policy differs for the 442 markets generally associated with four or more overlaps and the 128 markets for which we have more specific data. The first two columns of the table repeat the core model from Table 3, but estimate it separately for these two sub-samples. A Wald test suggests that the coefficients of the two models differ as the equal coefficient hypothesis can be rejected at the 10 percent critical level.[33] The most obvious difference again involves the coefficient measuring the impact of the number of significant rivals. This coefficient is statistically insignificant for the 442 observation sample, but significant in the small-sample (128 observation model). An unreported regression on the 442 market sample (*i.e.*, one allowing separate coefficients for each industry) suggests that even at the industry level, the number of rivals is insignificant for matters having four or more overlaps.[34] The coefficients for the oil and grocery industry variables also differ over the two samples. In light of the few oil and grocery observations (four and nine, respectively) retained in the small sample, it is difficult to make much of this result.

We can use the coefficients of the model (Table 4, column 2) to gain a sense of the effect of the number of rivals on predicted enforcement for the small sample.[35] For example, letting the Herfindahl be 4000, the change in Herfindahl be 800 and the number

[33] Chi-square statistic is 13.48 which is greater than the (90 percent) critical statistic of 13.36 for 8 restrictions.

[34] The number of significant rivals has no statistical e

of rivals range between 3 and 5 predicts the probability of enforcement to be 81 percent for the three-to-two merger but only 39 percent for the five-to-four transaction. (Section VI discusses predictions in more detail.)

The third column of Table 4 adds the hot document and customer complaint variables to the small sample model.[36] The structural variables retain their magnitude and significance, while customer complaint variable is strongly significant in the expected direction.[37] The hot document variable fails to have a significant effect on the probability of enforcement, a result apparently caused by an outlier in the data.[38] The last column of Table 4 presents the results of a model in which the entry index is added to the regression.[39] Here, the entry variable suggests that enforcement is more likely when the entry index is high, although this result coul

The inclusion of the more detailed variables improves the ability of the model to predict outcomes. The core model (column 2) is successful in predicting the outcome in only 82 percent of the cases, while adding the customer complaint variable (column 3) improves the performance to 87 percent and including both customer complaints and the entrx76hnxe (column43)allowes thebroade model toexhibint 982 ph

i, whche case havdingstroing customerm

plaintdomeasy tdeshe

that occurs after this deletion is that the coefficient of the rivals variable becomes larger.[43] However, to truly compare the models, predicted probabilities should be calculated (and are later in this paper). In the last column, the data set was reduced to 58 observations by deleting all the observations with either ease of entry findings or substantiated customer complaints. The structural variables remain statistically significant.

VI. Analysis of the Models

While the statistical significance of the various coefficients identifies relationships in the data, it is necessary to evaluate the model at particular values to determine the overall impact of the variables on enforcement probabilities. Two considerations are relevant: first do the various models offer materially different predictions and second, do the key supplemental explanatory variables matter to the enforcement projection. Both questions are addressed below, through the analysis of various models.

In evaluating the models, it is important to account for the fact that the market structure variables are correlated. For example, for four or five rivals, the Herfindahl and change in Herfindahl are typically between 2300 to 3800 and 250 to 1250, respectively. Larger Herfindahls and deltas are very unlikely given four or five rivals. Conversely, when there are only two or three rivals, larger values of the Herfindahl and delta are possible and even quite likely. In fact, with two or three rivals, relatively low levels of these variables (*e.g.*, Herfindahl below 3000 or change below 700) are unlikely. The

[43] Additionally, removing cases with hot documents does not lead to substantive changes in the results.

model will only predict meaningful results if the relevant concentration parameters are compatible. Hence, we only make predictions at such values.

In Figure 1, we graph the enforcement probabilities for the three core models (the first, defined in Table 3, column 1, using 570 observations and the other two defined in the first two columns of Table 4, using 442

The marginal effects can be visualized by noting the difference in predicted enforcement at different points.

As can be seen in markets having three pre-merger rivals, the predicted probability of an enforcement action is typically very high, especially for values of the Herfindahl and delta where observations are likely to occur. Further, changes in the Herfindahl-related variables

when there are three, and even lower when there are five rivals. Overall, Figure 2 clearly shows how the concentration variables materially affect the enforcement predictions.

Table 5 reported broad models that exclude cases exhibiting easy entry and/or strong customer complaints. As discussed, we estimated these models to address the potential predictive problems associated with easy entry and strong customer complaints. Figure 3 visually compares the model that excludes markets having complaints (Table 5, column 2) to the model that includes a dummy variable set to zero to signify lack of complaints (Table 4, column 3).[44] Analogous figures could be generated that examine the impact of excluding cases having easy entry or how the models differ as other explanatory variables vary.

complaints. Both use the broad model in Table 5, column 1 (*i.e.* the model estimated with the sub-sample limited to markets having entry impediments). In both sets of predictions, the number of rivals is set to four, and hot document and industry effects are zeroed out.

Taken together, the matrices in Table 6 show the importance of verified customer complaints. For a relatively substantial level of the Herfindahl (*e.g.* 3000 to 4000), the model predicts that staff highlighting a customer concern will almost guarantee an enforcement action. On the other hand, if no complaints exist, enforcement is not likely at these levels of concentration.

Even at lower levels of concentration (*e.g.* Herfindahl equal to 2000), the existence of complaints can have a very large impact on the likelihood of enforcement. For example, without the existence of comp

increases with the entry variable, indicating entry impediments affect the review process. Not surprisingly, this evidence matters more for structurally marginal cases. For the model excluding the easy entry cases, the pr

VII. Conclusion

The statistical analysis generates a number of enforcement policy insights (although the possibility that the data review process did not allow for the recovery of all important variables argues for caution in interpreting the predictions). First, increases in the Herfindahl and change in Herfindahl generally make enforcement more likely, as do reductions in the number of significant competitors. Second, the industry may matter as the model predicts that enforcement is more likely in the oil, grocery, and chemical industries. Third, the models show no structural shifts during the eight year period examined here; that is neither political control of the Federal Trade Commission nor the merger wave is statistically related to the enforcement outcome.

Enforcement predictions depend to some extent on the ability of the analyst to undertake a comprehensive analysis of the relevant competitive concern. For matters exhibiting four or more competitive overlaps (often, but not always, mergers in the oil and grocery industries) Herfindahls matter, but the number of rivals does not affect the evaluation process. For matters with three or fewer market overlaps, it is possible to show that other variables, such as customer concerns and entry conditions significantly impact the merger analysis. These results do not appear sensitive to the exact data used to estimate the model.

Table 1 – Means of the Variables by Outcome, FY1996-2003
(large sample of all markets with data; small sample of overlaps with detailed data)

		Enforce Means	Close Means
Variable	Variable Definition	Large Sample Small Sample	Large Sample Small Sample
HHI	Post Merger Herfindahl recorded from BC memo.	5220* 5833*	3055 3271
Change	Change in Herfindahl recorded from BC memo.	1774* 1903*	703 825
Interaction	Product of Herfindahl and Change in Herfindahl	- -	- -
Rivals	Count of pre-merger number of significant rivals in the market	3.29* 2.94*	5.20 5.08
Hot Documents	Indicator variable for hot documents found in either party's files	- .202*	- .051
Customer Complaints	Indicator variable for staff verification of customer complaints.	- .562*	- .026
Entry Indicator (0-1)	Indicator variable for staff finding of entry impediments	- 1.00*	- .513
Entry Index (0-3)	Sum of variables for timeliness, likelihood and sufficiency of entry.	- 2.38*	- 1.10
Oil Industry	Indicator variable for market in oil industry.	.120* .011	.194 .077
Grocery Industry	Indicator variable for market in grocery industry.	.293* .067	.178 .077
Chemical Industry	Indicator variable for market in chemical industry.	.132* .190**	.054 .077
Other Industries	Indicator variable for market not explicitly coded above.	.445* .730	.574 .769
Muris Cases	Indicator variable for merger evaluated after June 1, 2001	.166 .236	.178 .205

Filings

Table 2 – Selected Means for Sub-Samples, FY 1996-2003
(442 obs. in large (4+ overlap markets) sample)
(128 obs. in small (3- overlap markets) sample)

Enforced Matters	Oil Industry	Grocery Industry	Chemical Industry	Other Industries
HHI (4+ Markets)	4522*	4088*	5500	6024
HHI (1-3 Markets)	2712	4426	5212	6172
Rivals (4 + Markets)	4.4*	3.7*	3.3*	2.8
Rivals (1-3 Markets)	5.0	3.5	3.3	2.8
Observations (4+ Markets)	52	123	41	136
Observations (1-3 Markets)	1	6	17	65

Closed Matters	Oil Industry	Grocery Industry

Table 3 – Econometric Analysis of Enforcement for Large Data Sample, FY 1996-2003
(t-statistics in parentheses)

	Core Model (570 obs)	Core Model with Muris (570 obs)	With Muris & Merger Wave I (570 obs)	With Muris & Merger Wave II (570 obs)
Log-HHI	7.013* (3.09)	7.066* (3.13)	7.194* (3.11)	7.211* (3.14)
Log-Change	8.015* (2.94)	8.084* (2.95)	8.236* (2.97)	8.243* (2.97)
Log-Interaction	-.8696* (-2.70)	-.8783* (-2.72)	-.8958* (-2.72)	-.8971* (-2.74)
Log-Rivals	-1.760* (-2.04)	-1.782* (-2.00)	-1.804* (-2.12)	-1.798* (-2.10)
Oil Industry	3.090* (4.26)	3.131* (4.29)	3.068* (4.09)	3.057* (4.14)
Grocery Industry	2.139* (2.83)	2.126* (2.76)	1.879* (2.65)	1.942* (2.62)
Chemical Industry	2.345* (2.61)	2.345* (2.64)	2.324* (2.67)	2.305* (2.68)
Muris Cases	-	-.1045 (-.19)	.2592 (.35)	.2052 (.28)
Filings/FTE	-	-	1.462 (.87)	-
Log-Filings	-	-	-	.7272 (.74)
Constant	-60.62* (-3.16)	-60.99* (-3.20)	-63.07* (-3.23)	-65.82* (-3.27)
Likelihood	-204.3	-204.2	-202.6	-203.0

* (**) The coefficient is significantly different from 0 for five (ten) percent two tail test.

Table 4 – Econometric Analysis of Enforcement for Sub-Samples, FY 1996-2003
(t-statistics in parentheses)

	Core Model (442 obs)	Core Model (128 obs)	Broad Model (128 obs)	Broad Model (with entry) (128 obs)
Log-HHI	7.890* (2.72)	13.51* (2.98)	12.38* (2.40)	17.91* (2.31)
Log-Change	9.083* (2.79)	15.91* (2.98)	13.48* (2.31)	17.84* (2.02)
Log-Interaction	-.9691* (-2.52)	-1.825* (-2.95)	-1.583* (-2.34)	-2.130* (-2.06)
Log-Rivals	-.8228 (-.74)	-3.639* (-3.55)	-3.742* (-2.77)	-3.896* (-3.18)
Hot documents	-	-	-.3208 (-.36)	-.8420 (-.80)
Customer Complaints	-	-	3.741* (2.59)	4.453* (3.33)
Entry Index	-	-	-	4.205* (4.02)
Oil Industry	3.214* (4.30)	.9581 (.65)	1.957 (1.30)	3.833* (3.26)
Grocery Industry	2.380* (2.75)	-.1943 (-.16)	.7796 (.62)	.7846 (.49)
Chemical Industry	2.740* (1.97)	2.013* (2.27)	2.167* (2.34)	2.497* (2.39)
Constant	-70.64* (-2.84)	-111.8* (-2.89)	-100.3* (-2.26)	-148.8* (-2.25)
Likelihood	-146.9	-47.00	-36.53	-23.27

* (**) The coefficient is significantly different from 0 for five (ten) percent two tail test.

Table 5 – Alternative Analysis of Enforcement for Small Sample, FY 1996-2003

Table 6 – Implications of Customer Complaints for Merger Enforcement Predictions
(Rivals fixed, by Post-Merger Herfindahl and Change in Herfindahl)
(all predictions are percentage probability of enforcement)

Predictions of the Broad Model* (Table 5, column 1) - Complaints set to zero

Rivals 4-to-3	200	400	800	1600
2000	2	8	25	N/A
3000	19	32	50	N/A
4000	55	62	68	74
5000	82	81	80	79

Predictions of Broad Model* (Table 5, column 1) - Complaints set to one.

Rivals 4-to-3	200	400	800	1600
2000	29	62	86	N/A
3000	82	90	95	N/A
4000	96	97	98	98
5000	99	99	99	99

* In the Broad model, hot documents and industry variables set to 0.

Table 7 – Implications of Entry for Merger Enforcement Predictions
(all predictions are percentage probability of enforcement)

	Entry	Index

Figure 1 – Enforcement Predictions by Values of the Herfindahl
(from Table 3, column 1 (570), Table 4, column 1(442) and Table 4 column 2 (128))

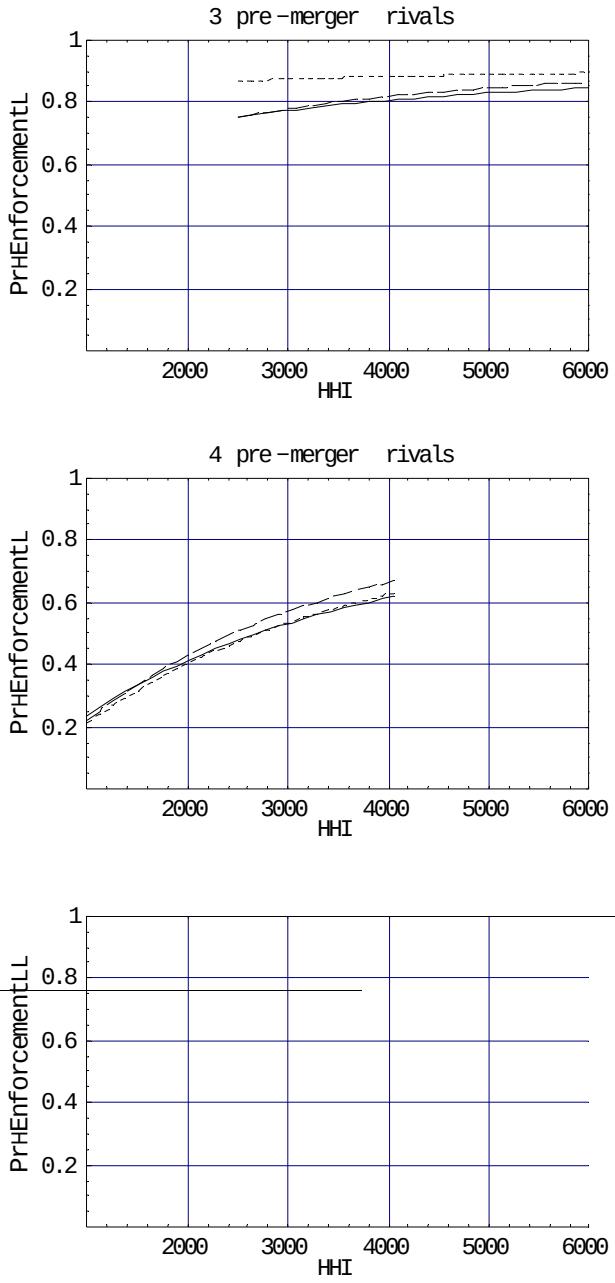
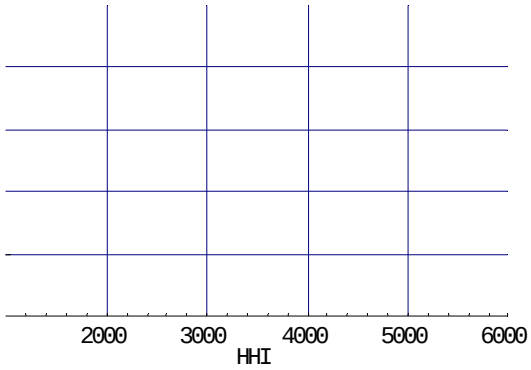


Figure 2 – Enforcement Predictions by Valu

Figure 3 – Enforcement Predictions by Values of the Herfindahl (no complaints)
(from Table 4, column 3 (128) and Table 5, column 2 (77))



Appendix A – Theory-Specific Structural Models

While the core of the paper focused on regressions using the data from the Merger

as subject to unilateral concerns, whenever the market share of the merging parties exceeds 35 percent. When the share of the merging parties falls below 35 percent, some form of coordinated interaction is presumed to represent the theory of concern.[2]

The formal theory indicates that the number of significant rivals should drive the review process for unilateral effects theories, and the combined effect of the Herfindahl index, the change in the Herfindahl index, and the interaction between these variables should influence the competitive analysis in collusion cases.[3] In effect, this model splits apart the four structural variables and limits their previously discussed effects to particular types of transactions. Such a model, if correct, would improve the ability to forecast enforcement by focusing the analysis on the most relevant variables.[4] The other control variables, discussed in the text, would be equally relevant to this model.

Table A-1 examines the possibility that the theory of competitive concern (*i.e.*, unilateral effects or coordinated interaction) determines the variables that affect the predicted enforcement outcome. Because merger evaluations of three or more overlaps might not contain enough detailed industry analysis to focus the competitive effects evaluation on a specific theory of concern, the data are limited to the 101 observations in which the merger involved only one or two overlaps. In the first column of Table A-1,

[2] The Guidelines arguably do not allow for a presumption of a unilateral effects theory if the combined share is below 35 percent in a differentiated products market. Id at Section 2.211. The use of a coordinated effects model is a theoretical presumption for the statistical tests in this paper.

[3] For more details on this theory, see Coate, Malcolm B., "Merger Enforcement Under the 1992 Merger Guidelines," Federal Trade Commission, 2004. This paper focuses on mergers in which only a single overlap is studied and thus is able to address the competitive issues in more depth.

[4] Enforcement matters are more likely to exhibit unilateral effects theories than closed investigations (77.5 percent of enforced matters have unilateral theories, while only 51.3 percent of closed matters are based on unilateral effects theories. The difference is statistically significant.)

the broad model (with entry) is re-estimated for the 101 observations.[5] No material differences are observed, as all the significant results are still obtained. This suggests that the fundamental model is not affected by the sample reduction.

The regression model in the second column simplifies the analytical structure to focus on the three Herfindahl-related variables (the Herfindahl statistic, its change, and the interaction term) for collusion cases and the number of rivals for unilateral effects cases.[6] The results for both the three collusion variables and the single unilateral effects rivals variable are statistically significant. Likewise, the customer complaint and entry variables retain their statistical significance.

This model can be compared to one that includes separate concentration variables for the collusion and unilateral cases (*i.e.*, separate Herfindahl, change in Herfindahl, interaction, and rivals variables for collusion and unilateral cases). A Wald test on this (unreported) model concludes that the coefficients excluded in column 2 are not significantly different from zero.[7] Thus, for matters with only one or two overlaps, it appears that enforcement is affected by only the three concentration variables for collusion theories and only the number of significant rivals for unilateral effects theories. Column 3 repeats the custom specification for a model that includes the Muris indicator. The coefficient on that variable remains insignificant.

It is also possible to test to determine if the model in column 2 can be further simplified to the model in column 4 that posits the structural analysis should focus on

[5] The oil industry variable is also deleted in these specifications, because an insufficient number of oil mergers remain in the sample. The entry index, although imperfect(p)-4(le)-7(. Th)-4 1(aecth)-4(ethou)se s1(raect47sc2)6(o) 159

only the Herfindahl index and number of rivals. The Wald test of the joint hypothesis that the coefficients for both the change in concentration and interaction variables are zero leads to the rejection of the restrictions.[8] This implies that all three structural indices may impact collusion cases when focusing on matters with one or two overlaps.

The model in column 2 can be used to generate predictions for both collusion and unilateral effects scenarios. Collusion cases with Herfindahls in the mid-3000's are almost certain (generally 90 percent or above) to suggest enforcement when the entry evidence is extremely strong (index 2 or 3 before logarithmic transformation). Comparable unilateral effects cases with four rivals are less certain enforcement targets. Entry evidence has little impact on enforcement probabilities when concentration is below 3000, or five rivals exist.

The implications for the theory of concern can also be derived. A number of results are interesting. First, unilateral effects theories predict enforcement is likely in two-to-one and three-to-two markets usually without specific evidence beyond entry impediments. Weaker structural evidence (*e.g.,* four-to-three markets) requires evidence of customer complaints to forecast enforcement. Second, given evidence on entry impediments, the collusion model predicts that enforcement is likely if the Herfindahl is above 3500, with a material change. Conversely, for Herfindahls under 3000, enforcement appears unlikely. This seems to imply that some explicit evidence (*e.g.*, customer concerns) is necessary for an enforcement action on a collusion theory unless the Herfindahl is well into the 3000's. Finally, customer complaints generally have a substantial impact on enforcement probabilities, so matters with moderate concentration

[8] The joint Chi-square test statistic is 6.26 which is above the critical value of 5.99 for two restrictions. This implies the restrictions should not be imposed.

appear likely to be enforced when customer complaints are identified for either unilateral effects or collusion cases.

In sum, there is evidence that different structural variables systematically drive the enforcement outcome in different types of competitive settings. The number of rivals matters in unilateral effects cases, while the Herfindahl levels and changes matter in coordinated interaction cases.

Appendix B – Further Analysis of Hot Documents

The insignificant statistical result associated with the hot document variable is surprising in light of the appa

The new failing firm data allows the deletion of three observations from the sample. This leads to the construction of models that can identify the impact of the hot document variable on the probability of enforcement decisions.

Table B-1 – Analysis of Enforcement Fo

Appendix C – Horizontal Merger Investigation Data, Fiscal Years 1996-2003

competitive harm was concern about vertical control or monopsony power. Also

Hot Documents

Data on "hot documents[16]" were collected for all fully-investigated transactions involving three or fewer relevant markets. This subset consists of 93 cases, involving 128 markets.[17] Table 5.1 presents the HHI and the Delta, together with the decision whether or not to seek relief, for markets in which Commission staff identified hot documents. Table 5.2 presents the same information for markets where no hot documents were identified. Tables 6.1 and 6.2 provide information on the number of significant competitors and the decision to seek relief for markets in which staff had or had not identified hot documents, respectively.

Customer Complaints

Data on the strength of customer reaction to the merger are presented in Tables 7.1 through 8.2. Customer reaction has been recorded as a "strong customer complaint" where customers expressed a credible concern that a significant anticompetitive effect would result were the transaction allowed to proceed. All other customer reactions (i.e.,

[16] A document is "hot" if it predicts that the merger will produce an adverse price or non-price effect on competition. The most obvious situation involves acquiring party documents that predict a price effect stemming from the merger. The price effect is not necessarily quantified and may be qualified by the use of words such as "likely"or "possible." In a slightly less obvious situation, a document may indicate that the recent entry of the acquired party blocked the incu3 TJao a paalify f Tw T*(had n0 Td[(t)4(.0001-2335is noignif)4TJexp)6(p)-t5

weak or non-credible complaints, no reaction, support for the transaction) have been recorded as "no strong customer complaint."[18]

Data on whether or not there were "strong customer complaints" was collected for all transactions involving the investigation of three or fewer markets, provided that these markets were not purely retail.[19] This subset consisted of 87 cases, involving 116 markets.[20] Table 7.1 presents HHI and Delta information, together with the decision whether or not to seek relief, for cases where "strong customer complaints" were received. Table 7.2 presents the same information for cases where no "strong customer complaints" were received. Tables 8.1 and 8.2 are the corresponding tables reflecting the number of significant competitors, the decision whether or not to seek relief, and whether any "strong customer complaints" were received, respectively.

ENTRY

Tables 9.1 through 10.2 present the Commission's decision to seek relief based on the Commission staff's evaluation of entry conditions. Data on entry conditions were

18

collected for all fully-investigated transactions involving 3 or fewer markets. This subset, which is the same as that for "hot documents," consists of 93 cases involving 128 markets. Entry is defined to be easy where the staff determined that entry meets the timeliness, likelihood, and sufficiency criteria discussed in the Horizontal Merger Guidelines. If entry does not meet any one of these criteria, then entry is determined to be difficult.

Table C-1

HSR Second Requests During Fiscal Years 1996-2003
Categorized by Nature of Transaction and Theory of Potential Violation

Nature of Transaction	Number of Second Requests
Horizontal Theory	151
Vertical Theory	17
Potential Competition Theory	12
Buyer Power (Monopsony) Theory	8
Joint Venture	3
Miscellaneous	3
Filing Withdrawn by Parties During the Investigation	54
Closed after a Quick Look	26
Investigation Open as of October 1, 2003	7
Total	**281**

Table C-2

FTC Merger Investigations During Fiscal Years 1996 - 2003
Categorized by Number of Relevant Markets

Number of Relevant Markets in the Investigation	Number of Mergers	Total Relevant Markets
1	78	78
2 - 4	38	106
5 - 15	26	192
16 - 50	5	134
50 +	4	274
Total	151	784

Table C-3.1

FTC Horizontal Merger Investigations
Post Merger HHI and Change in HHI (Delta)
All Markets
FY 1996 through FY 2003

Enforced/Closed

		Change in HHI (Delta)								
		0 - 99	**100 - 199**	**200 - 299**	**300 - 499**	**500 - 799**	**800 - 1,199**	**1,200 - 2,499**	**2,500 +**	***TOTAL***
Post Merger HHI	**0 - 1,799**	0/14	17/20	18/8	17/4	3/2	0/1	0/0	0/0	***55/49***
	1,800 - 1,999	0/4	5/4	5/3	12/1	12/2	0/0	0/0	0/0	***34/14***
	2,000 - 2,399	1/1	1/5	7/4	22/11	31/8	1/1	0/0	0/0	***63/30***
	2,400 - 2,999	1/1	4/1	4/3	13/4	41/11	25/3	0/0	0/0	***88/23***
	3,000 - 3,999	0/2	2/2	3/1	6/1	15/6	49/11	28/7	0/0	***103/30***
	4,000 - 4,999	0/0	0/2	1/1	3/0	8/1	6/0	42/2	0/0	***60/6***
	5,000 - 6,999	0/0	2/0	3/2	3/1	6/0	7/1	63/12	20/2	***104/18***
	7,000 +	0/0	0/0	0/0	1/0	2/0	5/0	11/1	81/2	***100/3***
	TOTAL	***2/22***	***31/34***	***41/22***	***77/22***	***118/30***	***93/17***	***144/22***	***101/4***	***607/173***

Table C-3.2

FTC Horizontal Merger Investigations
Post Merger HHI and Change in HHI (Delta)
Grocery Markets
FY 1996 through FY 2003

Enforced/Closed

		Change in HHI (Delta)								
		0 - 99	**100 - 199**	**200 - 299**	**300 - 499**	**500 - 799**	**800 - 1,199**	**1,200 - 2,499**	**2,500 +**	***TOTAL***
Post Merger HHI	**0 - 1,799**	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	***0/0***
	1,800 - 1,999	0/0	0/1	0/0	0/0	0/0	0/0	0/0	0/0	***0/1***
	2,000 - 2,399	0/0	0/3	1/2	6/2	5/0	0/0	0/0	0/0	***12/7***
	2,400 - 2,999	1/1	3/0	3/0	5/3	14/1	5/0	0/0	0/0	***31/5***
	3,000 - 3,999	0/2	1/1	1/0	2/0	9/2	13/1	8/0	0/0	***34/6***
	4,000 - 4,999	0/0	0/0	0/0	1/0	2/0	1/0	21/1	0/0	***25/1***
	5,000 - 6,999	0/0	0/0	0/0	0/0	0/0	0/1	10/1	7/1	***17/3***
	7,000 +	0/0	0/0	0/0	0/0	0/0	0/0	1/0	9/0	***10/0***
	TOTAL	***1/3***	***4/5***	***5/2***	***14/5***	***30/3***	***19/2***	***40/2***	***16/1***	***129/23***

Table C-3.3

FTC Horizontal Merger Investigations
Post Merger HHI and Change in HHI (Delta)
Oil Markets
FY 1996 through FY 2003

Enforced/Closed

		Change in HHI (Delta)								
		0 - 99	**100 - 199**	**200 - 299**	**300 - 499**	**500 - 799**	**800 - 1,199**	**1,200 - 2,499**	**2,500 +**	***TOTAL***
Post Merger HHI	**0 - 1,799**	0/14	17/17	18/6	17/2	3/1	0/0	0/0	0/0	***55/40***
	1,800 - 1,999	0/4	5/3	5/3	12/1	12/0	0/0	0/0	0/0	***34/11***
	2,000 - 2,399	1/1	0/2	5/1	15/3	22/4	1/0	0/0	0/0	***44/11***
	2,400 - 2,999	0/0	1/0	0/0	4/0	13/3	12/2	0/0	0/0	***30/5***
	3,000 - 3,999	0/0	1/0	1/0	1/0	3/0	11/1	4/0	0/0	***21/1***
	4,000 - 4,999	0/0	0/0	1/0	0/0	0/0	0/0	0/0	0/0	***1/0***
	5,000 - 6,999	0/0	0/0	2/0	0/0	1/0	0/0	6/0	2/0	***11/0***
	7,000 +	0/0	0/0	0/0	0/0	1/0	2/0	1/0	8/0	***12/0***
	TOTAL	***1/19***	***24/22***	***32/10***	***49/6***	***55/8***	***26/3***	***11/0***	***10/0***	***208/68***

Table C-3.4

FTC Horizontal Merger Investigations
Post Merger HHI and Change in HHI (Delta)
Chemical Markets
FY 1996 through FY 2003

Enforced/Closed

	0 - 99	100 - 199	200 - 299	300 - 499	500 - 799	800 - 1,199	1,200 - 2,499	2,500 +	*TOTAL*
0 - 1,799	0/0	0/0	0/0						

Table C-3.5

FTC Horizontal Merger Investigations
Post Merger HHI and Change in HHI (Delta)
Pharmaceuticals Markets
FY 1996 through FY 2003

Enforced/Closed

Change in HHI (

		0 - 99	**100 - 199**	**200 - 299**	**300 - 499**	**500 - 799**	**800 - 1,199**	**1,200 - 2,499**	**2,500 +**	***TOTAL***
	0 - 1,799	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	***0/0***
	1,800 - 1,999	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	***0/0***
	2,000 - 2,399	0/0	0/0	0/0	1/0	0/0	0/0	0/0	0/0	***1/0***
	2,400 - 2,999	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	***0/0***
	3,000 - 3,999	0/0	0/1	0/0	0/0	1/0	1/0	3/0	0/0	***5/1***
	4,000 - 4,999	0/0	0/0	0/0	0/0	2/0	2/0	1/0	0/0	***5/0***
	5,000 - 6,999	0/0	1/0	0/0	0/0	0/0	1/0	2/0	1/0	***5/0***
	7,000 +	0/0	0/0	0/0	1/0	0/0	0/0	2/0	5/0	

Table C-3.6

Table C-4.2

FTC Horizontal Merger Investigations
Number of Significant Competitors
Grocery Markets
FY 1996 through FY 2003

		Outcome		
		Enforced	**Closed**	***TOTAL***
Significant Competitors	2 to 1	15	0	***15***
	3 to 2	40	5	***45***
	4 to 3	54	10	***64***
	5 to 4	16	4	***20***
	6 to 5	3	2	***5***
	7 to 6	1	1	***2***
	8 to 7	0	1	***1***
	9 to 8	0	0	***0***
	10 to 9	0	0	***0***
	10 +	0	0	***0***
	TOTAL	***129***	***23***	***152***

Table C-4.3

FTC Horizontal Merger Investigations
Number of Significant Competitors
Oil Markets
FY 1996 through FY 2003

		Outcome		
		Enforced	**Closed**	***TOTAL***
Significant Competitors	2 to 1	13	0	***13***
	3 to 2	12	0	***12***
	4 to 3	6	0	***6***
	5 to 4	7	3	***10***
	6 to 5	6	8	***14***
	7 to 6	1	5	***6***
	8 to 7	6	1	***7***
	9 to 8	0	2	***2***
	10 to 9	2	0	***2***
	10 +	0	6	***6***
	TOTAL	***53***	***25***	***78***

[redacted]

Significant Competitors

Table C-4.6

FTC Horizontal Merger Investigations
Number of Significant Competitors
"Other" Markets
FY 1996 through FY 2003

		Outcome		
		Enforced	**Closed**	***TOTAL***
Significant Competitors	2 to 1	68	5	***73***
	3 to 2	84	23	***107***
	4 to 3	22	20	***42***
	5 to 4	1	10	***11***
	6 to 5	2	7	***9***
	7 to 6	0	2	***2***
	8 to 7	0	3	***3***
	9 to 8	0	2	***2***
	10 to 9	0	1	***1***
	10 +	0	3	***3***
	TOTAL	***177***	***76***	***253***

Table C-5.1

FTC Horizontal Merger Investigations
Post Merger HHI and Change in HHI (Delta)
All Markets
FY 1996 through FY 2003

Hot Documents Identified

Enforced/Closed

		Change in HHI (Delta)								
		0 - 99	**100 - 199**	**200 - 299**	**300 - 499**	**500 - 799**	**800 - 1,199**	**1,200 - 2,499**	**2,500 +**	***TOTAL***
Post Merger HHI	**0 - 1,799**	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	***0/0***
	1,800 - 1,999	0/0	0/0	0/0	0/0	0/1	0/0	0/0	0/0	***0/1***
	2,000 - 2,399	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	***0/0***
	2,400 - 2,999	0/0	0/0	0/0	1/0	1/0	0/0	0/0	0/0	***2/0***
	3,000 - 3,999	0/0	0/0	0/0	0/0	1/1	1/0	2/0	0/0	***4/1***
	4,000 - 4,999	0/0	0/0	0/0	0/0	1/0	0/0	0/0	0/0	***1/0***
	5,000 - 6,999	0/0	0/0	0/0	1/0	0/0	0/0	3/0	1/0	***5/0***
	7,000 +	0/0	0/0	0/0	0/0	0/0	0/0	1/0	5/0	***6/0***
	TOTAL	***0/0***	***0/0***	***0/0***	***2/0***	***3/2***	***1/0***	***6/0***	***6/0***	***18/2***

Table C-5.2

FTC Horizontal Merger Investigations
Post Merger HHI and Change in HHI (Delta)
All Markets
FY 1996 through FY 2003

No Hot Documents Identified

Enforced/Closed

	0 - 99	100 - 199	200 - 299	300 - 499	500 - 799	800 - 1,199	1,200 - 2,499	2,500 +	*TOTAL*
0 - 1,799									

Table C-6.1

FTC Horizontal Merger Investigations
Number of Significant Competitors
All Markets
FY 1996 through FY 2003

Hot Documents Identified

		Outcome		
		Enforced	**Closed**	***TOTAL***
Significant Competitors	2 to 1	8	0	***8***
	3 to 2	3	0	***3***
	4 to 3	6	2	***8***
	5 to 4	0	0	***0***
	6 to 5	1	0	***1***
	7 to 6	0	0	***0***
	8 to 7	0	0	***0***
	9 to 8	0	0	***0***
	10 to 9	0	0	***0***
	10 +	0	0	***0***
	TOTAL	***18***	***2***	***20***

Table C-6.2

FTC Horizontal Merger Investigations
Number of Significant Competitors
All Markets
FY 1996 through FY 2003

No Hot Documents Identified

	Outcome		
	Enforced	**Closed**	***TOTAL***
2 to 1	29	1	***30***
3 to 2	25	6	***31***
4 to 3	13	10	***23***
5 to 4	2	12	***14***
6 to 5	2	3	***5***
7 to 6	0	1	***1***
8 to 7	0	1	***1***
9 to 8	0	1	***1***
10 to 806 2.94337 -23253 9.4 2o36294337 -00199 0.0T 204296868 -23253+ 1237481908795			

Table C-7.2

FTC Horizontal Merger Investigations
Post Merger HHI and Change in HHI (Delta)
All Markets
FY 1996 through FY 2003

No Strong Customer Complaints

Enforced/Closed

		Change in HHI (Delta)								
		0 - 99	**100 - 199**	**200 - 299**	**300 - 499**	**500 - 799**	**800 - 1,199**	**1,200 - 2,499**	**2,500 +**	***TOTAL***
Post Merger HHI	**0 - 1,799**	0/0	0/2	0/0	0/2	0/0	0/0	0/0	0/0	***0/4***
	1,800 - 1,999	0/0	0/2	0/0	0/0	0/1	0/0	0/0	0/0	***0/3***
	2,000 - 2,399	0/0	0/0	0/0	1/1	1/2	0/1	0/0	0/0	***2/4***
	2,400 - 2,999	0/0	0/0	0/1	0/1	3/4	1/1	0/0	0/0	***4/7***
	3,000 - 3,999	0/0	0/1	0/1	0/0	0/2	2/1	1/3	0/0	***3/8***
	4,000 - 4,999	0/0	0/2	0/0	1/0	1/1	2/0	3/1	0/0	***7/4***
	5,000 - 6,999	0/0	1/0	0/0	2/0	0/0	1/0	2/2	2/1	***8/3***
	7,000 +	0/0	0/0	0/0	1/0	1/0	1/0	0/0	4/1	***7/1***
	TOTAL	***0/0***	***1/7***	***0/2***	***5/4***	***6/10***	***7/3***	***6/6***	***6/2***	***31/34***

Table C-8.1

FTC Horizontal Merger Investigations
Number of Significant Competitors
All Markets
FY 1996 through FY 2003

Strong Customer Complaints

		Outcome		
		Enforced	**Closed**	***TOTAL***
Significant Competitors	2 to 1	25	0	***25***
	3 to 2	14	1	***15***
	4 to 3	8	0	***8***
	5 to 4	0	0	***0***
	6 to 5	3	0	***3***
	7 to 6	0	0	***0***
	8 to 7	0	0	***0***
	9 to 8	0	0	***0***
	10 to 9	0	0	***0***
	10 +	0	0	***0***
	TOTAL	***50***	***1***	***51***

Table C-8.2

FTC Horizontal Merger Investigations
Number of Significant Competitors
All Markets
FY 1996 through FY 2003

No Strong Customer Complaints

		Outcome		
		Enforced	**Closed**	***TOTAL***
Significant Competitors	2 to 1	10	1	***11***
	3 to 2	10	3	***13***
	4 to 3	10	10	***20***
	5 to 4	1	12	***13***
	6 to 5	0	3	***3***
	7 to 6	0	1	***1***
	8 to 7	0	1	***1***
	9 to 8	0	1	***1***
	10 to 9	0	0	***0***
	10 +	0	2	***2***
	TOTAL	***31***	***34***	***65***

Table C-9.1

FTC Horizontal Merger Investigations
Post Merger HHI and Change in HHI (Delta)
All Markets
FY 1996 through FY 2003

Entry Easy

Enforced/Closed

		Change in HHI (Delta)								
		0 - 99	**100 - 199**	**200 - 299**	**300 - 499**	**500 - 799**	**800 - 1,199**	**1,200 - 2,499**	**2,500 +**	***TOTAL***
Post Merger HHI	**0 - 1,799**	0/0	0/1	0/0	0/2	0/0	0/0	0/0	0/0	***0/3***
	1,800 - 1,999	0/0	0/1	0/0	0/0	0/0	0/0	0/0	0/0	***0/1***
	2,000 - 2,399	0/0	0/1	0/0	0/0	0/0	0/1	0/0	0/0	***0/2***
	2,400 - 2,999	0/0	0/0	0/0	0/0	0/1	0/1	0/0	0/0	***0/2***
	3,000 - 3,999	0/0	0/0	0/0	0/0	0/2	0/1	0/1	0/0	***0/4***
	4,000 - 4,999	0/0	0/2	0/0	0/0	0/1	0/0	0/1	0/0	***0/4***
	5,000 - 6,999	0/0	0/0	0/0	0/0	0/0	0/0	0/2	0/1	***0/3***
	7,000 +	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	***0/0***
	TOTAL	***0/0***	***0/5***	***0/0***	***0/2***	***0/4***	***0/3***	***0/4***	***0/1***	***0/19***

Table C-9.2

FTC Horizontal Merger Investigations
Post Merger HHI and Change in HHI (Delta)
All Markets
FY 1996 through FY 2003

Entry Difficult

Enforced/Closed

		Change in HHI (Delta)								
		0 - 99	**100 - 199**	**200 - 299**	**300 - 499**	**500 - 799**	**800 - 1,199**	**1,200 - 2,499**	**2,500 +**	***TOTAL***
Post Merger HHI	**0 - 1,799**	0/0	0/1	0/0	0/0	0/0	0/0	0/0	0/0	***0/1***
	1,800 - 1,999	0/0	0/0	0/0	0/0	0/1	0/0	0/0	0/0	***0/1***
	2,000 - 2,399	0/0	0/0	0/0	1/1	3/3	0/0	0/0	0/0	***4/4***
	2,400 - 2,999	0/0	0/0	0/1	1/1	4/3	2/0	0/0	0/0	***7/5***
	3,000 - 3,999	0/0	0/1	0/1	0/0	1/2	7/1	5/2	0/0	***13/7***
	4,000 - 4,999	0/0	0/0	0/0	1/0	4/0	2/0	7/1	0/0	***14/1***
	5,000 - 6,999	0/0	1/0	1/0	2/0	0/0	2/0	11/0	6/0	***23/0***
	7,000 +	0/0	0/0	0/0	1/0	1/0	1/0	7/0	18/1	***28/1***
	TOTAL	***0/0***	***1/2***	***1/2***	***6/2***	***13/9***	***14/1***	***30/3***	***24/1***	***89/20***

Table C-10.1

FTC Horizontal Merger Investigations
Number of Significant Competitors
All Markets
FY 1996 through FY 2003

Entry Easy

		Outcome		
		Enforced	**Closed**	***TOTAL***
Significant Competitors	2 to 1	0	0	***0***
	3 to 2	0	4	***4***
	4 to 3	0	5	***5***
	5 to 4	0	5	***5***
	6 to 5	0	2	***2***
	7 to 6	0	1	***1***
	8 to 7	0	1	***1***
	9 to 8	0	0	***0***
	10 to 9	0	0	***0***
	10 +	0	1	***1***
	TOTAL	***0***	***19***	***19***

Table C-10.2

FTC Horizontal Merger Investigations
Number of Significant Competitors
All Markets
FY 1996 through FY 2003

Entry Difficult

		Outcome		
		Enforced	**Closed**	***TOTAL***
Significant Competitors	2 to 1	37	1	***38***
	3 to 2	28	2	***30***
	4 to 3	19	7	***26***
	5 to 4	2	7	***9***
	6 to 5	3	1	***4***
	7 to 6	0	0	***0***
	8 to 7	0	0	***0***
	9 to 8	0	1	***1***
	10 to 9	0	0	***0***
	10 +	0	1	***1***
	TOTAL	***89***	***20***	***109***