

The Measurement of Merger Delay in Regulated and Restructuring Industries

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I. Introduction

The number and size of mergers in the 1990s have risen sharply, due partly to restructuring in formerly regulated industries and partly to the creation of new markets and economies of scale by communication technologies such as the Internet and cellular telephone. Many of these mergers occur in regulated industries and, as such, are subject to antitrust scrutiny by both antitrust and regulatory agencies. This “dual review” of mergers in regulated industries is not without its critics (or supporters). Complaints of inconsistent and incompatible review standards, the inefficiency of duplicative efforts by already strained government resources, and the delay caused by multiple review are becoming increasingly common (Weiss and Stern 1998; Neill 1997; Furchgott-Roth 1999).¹

The purpose of this brief paper is to address the last of these criticisms. Specifically, do mergers in regulated industries take longer to complete than mergers not subject to the scrutiny of both antitrust and regulatory agencies? Delay, if present, is not necessarily inexpedient. The uncertainty of future market conditions, particularly in industries undergoing massive restructuring due to technological change, may prescribe caution in evaluating mergers among firms that could potentially monopolize emerging markets. On the other hand, the transitional (and in some cases permanent) economic rents created by deregulation and mergers will no doubt spur rent-seeking activity by merging parties and their rivals. Regulatory agencies reduce the transactions costs of rent-

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¹ For example, merger deliberations between Bell Atlantic and NYNEX were announced in April 1996 were not completed until August 1997 and the proposed SBC/Ameritech merger was announced in May 1998 and is incomplete as of August 1999. The SBC/Ameritech merger, if completed, would provide integrated services of local, long-distance, Internet, and high-speed data services to a potential customer base of 180 million people. This merger must be approved by two of the five Public Utility Commissions in Ameritech’s service regions, local regulators, and the FCC. In addition, the U. S. Department of Justice will also review the transaction and some European countries will conduct their own reviews.

seeking activity, suggesting delay may be the consequence of inefficient rent-seeking behavior rather than the cautious behavior of the benevolent regulator.

Delay, even if motivated by caution, can be extremely costly. Rapid technological change can quickly outdate existing industry structure. In many regulated industries, industry structure has been insulated from market forces for many decades suggesting inefficient industry structures are particularly common in these industries. Therefore, mergers in areas like communications, electric utilities, and banking are expected as part and parcel of the process of deregulation. The potentially large efficiency gains from restructuring these industries, perhaps through merger, suggest delay may be costly.

Whether motivated by caution, inefficient duplication, or rent-seeking behavior, merger delay is an important issue. While we are aware of many claims that merger approval in regulated industries is systematically delayed by dual review, we are unaware of any statistical evidence to support the claim. We seek to remedy this absence of evidence in this brief paper by providing a simple statistical test for group means differences in the completion time (announcement date to completion date) using a sample of over five hundred mergers occurring during 1990 through 1998. We adopt a multivariate statistical approach, accounting for differences in industry characteristics. This approach is necessary because comparing financially large mergers in concentrated and regulated markets to small mergers in unconcentrated and unregulated markets may produce unreliable measures of group means differences.

II. Statistical Test

The time interval between merger announcement and completion (completion time) will be influenced by a number of factors. We suggest three such factors that should affect completion time in a systematic manner. First, industry concentration plays a vital role in the Merger Guidelines approach to merger review. Mergers in more concentrated industries, therefore, are more likely to be delayed by standard Department of Justice or Federal Trade Commission review. Similarly, assessing the potential consequences of mergers between firms in highly concentrated industries may be more difficult and, perhaps, more important in terms of economic significance. We expect that the length of merger review, and thus completion time, will be positively related to industry concentration.

Second, and somewhat related to industry concentration, the sheer financial size of the merger should lengthen completion time. Larger mergers, *ceteris paribus*, will attract more political attention, may cause large changes in industry concentration (spurring review under the Guidelines), and are likely to be

viewed as having a higher cost of "antitrust error." Larger firms also may have a more difficult time reaching consensus on valuation and corporate structure after the merger.

Our focus is on a third factor -- mergers between firms in regulated industries will likely be subject to review by multiple government agencies. This duplication of effort and analysis, particularly when the analysis varies among agencies, will almost certainly slow the review process and lengthen completion time. The pursuit of rents by the merging parties and their rivals will also contribute to the length of the approval process.

While the dual review process provides opportunities for delay, there is a potential that dual review, or the institutions that create the phenomenon, may in fact speed up the merger review process. Regulatory bodies maintain extensive databases on their constituent industries. Through constant regulation, these bodies maintain an up-to-date knowledge of the industry. These information resources should be valuable to agencies charged with the task of assessing the economic impact of mergers between regulated firms. This knowledge may contribute to a more efficient merger review, potentially offsetting the inefficiencies of multiple agency review. Whether the efficiency from knowledge or inefficiency of multiple review (among other factors) dominates will be determined by our statistical analysis.

Our discussion suggests a simple model of merger completion time (T),

$$T = \alpha_0 + \alpha_1 C + \alpha_2 S + \alpha_3 R + \varepsilon \quad (1)$$

where T is measured in days from the announcement to completion date of the merger, C is industry concentration, S is the size of merger (in dollars), and R is a dummy variable indicating mergers between firms in a regulated industries ($R = 1$ for mergers in regulated industries). While there are certainly many other factors that contribute to the completion time of a particular merger, we assume the influence of these other factors is random across mergers and are captured in the random disturbance term, ε . Confidence in this assumption can be established by subjecting the econometric equation (1) to specification tests, paying special attention to omitted variables bias. We employ Ramsey's RESET test because it is particularly potent at detecting omitted variables bias (Ramsey and Gilbert 1972).

To estimate equation (1), we collected a random sample of 553 completed mergers between publicly held companies with values exceeding \$150 million

that occurred between January 1990 and December 1998.² Of these 553 mergers, 461 were originated and completed in regulated industries (including mergers in communications, broadcasting, electric, gas, and water utilities, banking, and finance). The remaining 92 mergers were in unregulated industries, including food processing, apparel, chemicals, paints, coatings, toiletries, and cosmetics. *Mergerstat Review* provides data on merger completion time (T), size (S), and industry type. The 50-firm Concentration Ratios (C) are from Census data and are based on seller's 4-digit Standard Industrial Classification (SIC) code.³

III. Results

The ordinary least squares estimates of equation (1), along with the descriptive statistics, are summarized in Table 1. The R^2 of the regression is 0.10. The RESET F-statistic is 0.23, which is well below the critical value of 2.6, indicating that omitted variables bias is not a serious problem. Coefficients for both S and R are statistically significant at the one-percent level or better (White's t-statistics are 2.98 and 8.38 respectively).⁴ White's t-statistic on concentration (C) is 1.36, which is statistically significant at the 0.17 (0.085) level in the two-tail (one-tail) t-test. The coefficients on C and S are both positive as expected. While increases in concentration and size play a role in increasing completion times, the effect is small. About three days is added to completion time for either a ten-percentage point increase in the concentration ratio or a one billion-dollar increase in merger size.

The positive and statistically significant coefficient on R is consistent with the claim that mergers in regulated industries have longer completion times. At the sample means of the data, mergers in regulation industries take approximately 66 days longer than mergers in unregulated industries. The mean completion time for mergers in unregulated industries is 94 days, so those mergers in regulated industries take about 70 percent longer to complete, ceteris paribus. If we compute the mean completion times at the sample means of the two

² Our data source in all instances was Mergerstat Review. (Houlihan Lokey Howard & Zukin, Los Angeles, California; <http://www.hlh.com> and www.mergerstat.com.)

³ Concentration Ratios in Manufacturing (1992) and Economic Census Establishment and Size (1992). We use the 50-firm ratio because SIC code concentration ratios do not account for geographic markets. Thus, a 4-firm ratio might appear small for telecommunications, when in fact every local market may be a monopoly. If the largest 50 firms dominate the market, then it is fairly safe to assume that the industry is concentrated even across geographic markets.

⁴ We could reject the hypothesis of homoskedastic disturbances, so White's t-statistics are used.

respective samples, the means difference increases to 81 days, an increase in completion time of about 86 percent.

IV. Conclusion

Antitrust review of mergers in regulated industries has come under increased scrutiny in recent years. One primary criticism is that multiple agency review of mergers unnecessarily delays merger completion. Using a sample of over 500 mergers during the years 1990 through 1998, our statistical analysis shows that mergers in regulated industries do take longer to complete than mergers in unregulated industries. The time difference for merger completion is estimated to be about 75 days (or 80%) longer in regulated industries. Given the rapidly changing production technologies and relaxed regulation in many regulated industries, both the cost of merger delay and the benefits of careful merger review can be substantial. We have posited numerous reasons for this delay, but our data does not allow us to accurately determine why it exists or measure its financial significance. An interesting extension of our research would be to evaluate these important questions.

Table 1. OLS Results and Descriptive Statistics

Variable	Coefficient (White's t-stat)	Mean (Standard Deviation)		
		<i>R</i> = 0	<i>R</i> = 1	Entire Sample
Constant	67.33 (3.55)	94.03 (72.8)	175.18 (106.1)	161.7 (105.7)
<i>C</i>	0.29 (1.36)	84.40 (17.33)	76.04 (17.86)	77.43 (18.02)
<i>S</i>	0.03 (2.98)	672.3 (738.2)	2,133 (5,035)	1,890 (4,638)
<i>R</i>	79.36 (8.38)	0.83 (0.37)
<i>R</i> ²	0.10
F-Statistic	20.80
RESET F	0.23
Observations	533	92	461	553

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