2000

The Post-Merger Equity Value Performance of Acquiring Firms in the Hospitality Industry

Atul Sheel

Amit Nagpal

Recommended Citation

Sheel, Atul and Nagpal, Amit (2000) "The Post-Merger Equity Value Performance of Acquiring Firms in the Hospitality Industry," *Journal of Hospitality Financial Management*: Vol. 8 : Iss. 1 , Article 2.
Available at: https://scholarworks.umass.edu/jhfm/vol8/iss1/2

THE POST-MERGER EQUITY VALUE PERFORMANCE OF ACQUIRING FIRMS IN THE HOSPITALITY INDUSTRY

Atul Sheel

and

Amit Nagpal

ABSTRACT

This paper investigates long run equity value performance of acquiring firms in the hospitality industry. The performance analysis has been done using the Jensen Measure Model and the Market Model. The study shows significantly negative equity value performance of the acquiring hospitality firms at least for the period 1980–2000. As such, the impact of mergers and acquisitions on equity value of acquiring firms in the hospitality industry is better understood.

Introduction

Mergers and acquisitions have grown into an important subject for finance researchers today. Some argue that acquisitions have increased firm value and efficiency, moved resources to their highest and best uses, and, thereby, have increased shareholder's value (Jensen 1984). Others argue that the post acquisition performance of acquired firms does not improve (Magenheim & Mueller, 1988; Ravenscraft & Scherer, 1988). Yet another view is that acquisition activity represents machinations of speculators who reflect the frenzy of a "Casino Society" (Rohatyn, 1986). This speculative activity increased debt unduly in the latter part of the 1980s, and eroded equity resulting in an economy highly vulnerable to economic instability.

Background

Weston, Chung, and Hoag (1990) have explained the merger phenomenon using several different rationales:

1. The *differential efficiency* rationale states that if the management of firm A is more efficient than the management of B, and if A acquires B, the efficiency of B is brought up to the efficiency level of firm A.

2. The *operating synergy* rationale states that a major motivation for mergers and acquisitions is the resulting operating synergy that represents a form of economy of scale. Such economies, in turn, may lead to better utilization of capacity after the merger.

3. The *financial synergy* rationale states that mergers and acquisitions can potentially lower the cost of capital function by influencing the bankruptcy costs and such other factors.

4. The *under valuation* rationale states that certain firms that are undervalued become attractive targets for other firms because the replacement cost of assets acquired is less than the building cost of those assets.

5. The *agency problem* rationale states that in firms with major agency problems, the owners look forward to external arrangements (takeovers, etc.) to mitigate such costs.

6. The winner's curse-hubris rationale states that in many takeovers, the higher valuation of the bidder (over the target's true economic value) results from the bidder's excessive self-confidence (or pride and arrogance).

6. The *tax* rationale states that many mergers and acquisitions are induced by tax considerations. Whether such considerations induce mergers depends on the availability of alternative methods of achieving equivalent tax benefits.

In the 1980s, most empirical research on mergers focused on the *short run effects* (daily equity returns surrounding the announcement date) on the equity value of the target and the acquiring firm. Such studies generally showed that target equity holders earned significantly positive abnormal returns, and that the acquiring firm equity holders earned little or no abnormal returns (Jensen & Ruback, 1983; Asquith, 1983). In the 1990s, however, researchers looked more at the *long run* (one to five years) post merger equity returns of acquiring firms. The findings of such long run studies have been divided. Some document statistically significant negative abnormal returns for stockholders of acquiring firms over a five-year post-merger period (Agrawal, Jaffe & Mandelker, 1992). Others suggest no significant abnormal returns and also show that past research findings on post-merger equity-value performance are influenced by benchmark selection errors (Frank, Harris & Titman, 1991). Some studies suggest that acquiring firms experience significantly negative abnormal returns over one to three years, but experience positive returns in the fourth and fifth years (Loderer & Martin, 1992). Others also suggest the influence of other factors (cash/stock tender offers, ownership trends and such others) on post-merger abnormal common equity returns (Loughran & Vijh, 1997; Chang, 1998).

Research on Mergers and Acquisitions in the Hospitality Industry

Although the phenomenon of mergers has been examined by a plethora of studies in the conventional framework, very few researchers have addressed the merger and acquisition trends in the hospitality industry. Andrew (1988) showed that the acquiring hospitality firms lost value during the 20 days prior to the announcement of the acquisition. The same study also showed that the target firms, on the other hand, gained value during the same period, but the size of the additional wealth gained was skewed upwards. Kwansa (1994) estimated the size of the additional wealth earned by the equity holders of lodging companies acquired in the 1980s. The total and cumulative average residuals were calculated based on the portfolio of 18 target companies and an event window of 61 trading days. The results showed that the bulk of additional wealth was created two days before and after the announcement of an acquisition. The total cumulative average residual for the target hotel companies was found to be 31.5%.

While these studies have examined the short run influence of mergers on equity value, the long run impact of mergers on the equity returns of acquiring firms in the hospitality industry has been relatively ignored. This research addresses such a deficiency and strives to broaden the relatively small literature base on mergers and acquisitions within the hospitality industry.

Purpose

The purpose of the study is to test the long-term effect of acquisition on the equity value of acquiring firms in the hospitality industry.

Research Hypothesis

The research accomplishes its objective by testing the following hypothesis:

H_0 = *The process of acquisition does not effect the equity value of the acquiring firms in the long run.*

H_a = *The process of acquisition does affect the equity value of the acquiring firms in the long run.*

Data Collection

The research examines the impact of acquisitions on the equity value of acquiring hospitality firms for the period 1980–2000. A list of all the acquiring and the target firms was obtained from the hospitality section of *Merger & Acquisition Journal*. Thereafter, the monthly ticker data for a 36-month period before and after the acquisition (total of six years) were obtained from Datastream. The nature of the hospitality industry allows acquiring firms to either take over all the assets or, at times, even partial assets or franchise of target hospitality companies. Although the number of acquisitions in the hospitality industry increased many-fold since the 1970s, most of the deals involved partial (one or few hotel units) acquisition of a company's asset or franchise, which barely affected the equity value of large acquiring firms. In order to overcome such problem in sample selection, only deals valued at $7.5 million or more were considered for analyses.

Research Methodology

Two different models, namely the *Jensen Measure Model* and the *Market Model*, were used to calculate the long run abnormal equity value performance of the acquiring firms.

Jensen Measure Model

The literature on portfolio performance evaluation suggests that, under fairly reasonable conditions, the Jensen measure, which is the intercept from the regression of the

excess return on the excess return of a benchmark portfolio (Frank, 1991) provides an appropriate measure of merger performance. The monthly returns of acquiring firms for 36 months beginning the month after the final bid were converted to excess returns by subtracting the yield on one month Treasury Bills. The market returns for respective period were also converted to excess market returns. The following equations were used:

$$r'_{jt} = r_{jt} - r_{ft} \qquad t = 1, 2, ..., 36, \qquad\qquad (1)$$

$$r'_{mt} = r_{mt} - r_{ft} \qquad t = 1, 2, ..., 36, \qquad\qquad (2)$$

where

r'_{jt} = excess return for company j in month t

r_{jt} = equity holder return for company j in month t

r_{ft} = yield on one month U.S. Treasury bills

r'_{mt} = excess return on market index m in month t

r_{mt} = return on market index m in month t

t = month relative to final bid date ($t = 0$ is the event month)

The regression of the excess equity returns (r'_{jt}) and the excess market returns (r'_{mt}) was run and the intercept was obtained for each acquirer j by using the equation:

$$r'_{jt} = \alpha_j + \beta_j\, r'_{mt} + \varepsilon_{jt} \qquad\qquad (3)$$

where

ε_{jt} = random error with mean zero

α_j = intercept for company j measuring abnormal performance

β_j = sensitivity coefficient of company j to market index

The t-test statistics and the p values were obtained for each firm. A cross-sectional analysis in event time was done by calculating the mean of the intercept (α_j) and the mean of the t-test statistic.

Market Model

As explained by Brown and Warner (1985), the first step in measuring the effect on stock value of an "event" (announcement of an acquisition) is to define an event window/period. The event window is the period containing the "event" for which the abnormal returns are calculated. The study covered the period from six months before to 36 months after the announcement date as the event window. A clean period, far removed from the announcement date, was chosen to calculate the parameters (α and β) for finding the estimated returns. In line with existent event study procedures, the period from 36 to seven months before the announcement date was considered the clean period.

As shown in equations 1 and 2, monthly returns of 10 acquiring firms for the clean period and the event period were converted to excess returns by subtracting the yield on one month Treasury Bills. The market returns for respective periods were also converted to excess market returns. The abnormal returns were calculated per the following equation:

$$A_{jt} = R_{jt} - \overline{R}_t \quad t = -6, -5, \ldots 0, 1, \ldots, 36$$

where

A_{jt} is the abnormal return for a given security j for month t

R_{jt} is the actual or observed risk free return for the event period, as given in equation 1

$\overline{R}_{jt}$ is the estimated return for the event period, given by

$$\overline{R}_{jt} = \alpha_j + \beta_j \overline{R}_{mt}$$

where

α_j is the intercept for company j calculated from the clean period.

β_j is the sensitivity coefficient of company j to market index, obtained from the clean period.

$\overline{R}_{mt}$ is the market return from equally weighted market index.

For each month in the event period, the abnormal returns (A_{jt}) were averaged across firms to produce the average residual for that month, AR_t, where $AR_t = \dfrac{\Sigma A_{jt}}{N}$, and N is the number of firms in the sample. The average residuals were accumulated for each month over the entire event period to produce the cumulative residual, *CAR*, for the event period where $CAR = \displaystyle\sum_{t=36}^{-6} AR_t$

The cumulative average represents the average total effect of the event across all firms.

Findings and Discussion

Table 1 summarizes the findings relevant to the Jensen Measure analysis for all major acquiring hospitality firms (transaction size greater that $7.5 million) during the 1980–2000 period.

Table 1
Findings relevant to Jensen Measure analysis

Appendix A: Summary of Jensen Measure (α_j) and t-test results				
S. No.	Company Name	Alpha j	t-statistics	p-Value
1	Aircoa Holdings Inc.	-4.31	-1.4	0.17
2	CSX Corp.	-7.99	-3.01	0.01
3	Equity Inns Inc.	-5.22	-3.55	0.00
4	FelCor Inc.	-6.82	-4.18	0.00
5	Hilton Hotels Corp.	-5.09	-2	0.05
6	Holiday Inns Inc.	-6.46	-2.78	0.01
7	Homegate Hospitality Inc.	-5.26	-2.71	0.01
8	Hospitality Franchise Systems	0.06	0.02	0.99
9	Hospitality Properties Trust	-6.21	-5.08	0.00
10	Host Marriott Corp.	-6.67	-3.24	0.00
11	Hotel Properties Inc.	-6.21	-1.1	0.28
12	Hudson Hotels Corp.	-10.2	-2.83	0.01
13	Int'l Fast Food Corp	-7.24	-0.88	0.38
14	Marcus Corp.	-6.61	-1.79	0.08
15	ITT Corp.	-7.04	-2.45	0.02
16	Marriott Int'l	-16.3	-2.37	0.03
17	Prime Motor Inns Inc.	-8.66	-3.87	0.00
18	Sky Scientific Inc.	-22.4	-2.99	0.01
19	Starwood Lodging Corp.	-9.26	-2.52	0.02
20	Trump Hotels & Casino Resorts	-9.53	-2	0.05
21	Winston Hotel Inc.	-4.86	-5.21	0.00
Appendix B: Cross-section Analysis of Jensen Measure and its t-statistic				
Mean of Alpha j = -7.70 Mean of t-statistics = -2.66				

Appendix A of Table 1 summarizes all the Jensen Measures (α_j) and their t-test results. As shown in this table, the Jensen Measures (α_j) for all but one acquiring firm are negative. Such a finding is further supported by the significantly negative mean value of the Jensen Measure in Appendix B of Table 1. The significant p and t values for the Jensen Measure suggests that at least for the 1980–2000 period, the equity value of acquiring hospitality firms declined in the long run. These results are consistent with the findings of Agrawal, Jaffe, and Mandelker (1992) and Loughran and Vijh (1997).

Table 2 summarizes the Cumulative Average Residuals (CARs) for the event period.

Table 2
Cumulative average residual for the event period

MONTH	ARt	t-statistic	CAR
-6	-0.30	-0.05	-0.30
-5	-3.55	-0.42	-3.85
-4	-4.67	-0.81	-8.52
-3	3.62	1.23	-4.90
-2	-3.70	-0.80	-8.60
-1	-6.00	-1.36	-14.60
0	-3.39	-2.30	-17.99
1	1.13	-1.16	-16.86
2	-6.97	-3.30	-23.83
3	-9.19	-2.22	-33.02
4	-9.64	-1.86	-42.66
5	0.46	0.26	-42.20
6	-2.24	-2.13	-44.45
7	-11.07	2.70	-55.52
8	-7.33	-0.28	-62.85
9	-3.90	-0.89	-66.75
10	-9.71	-1.07	-76.46
11	0.00	0.60	-76.46
12	-7.39	-3.67	-83.85
13	-2.95	-0.73	-86.79
14	-5.44	-1.22	-92.23
15	-4.07	0.10	-96.30
16	5.20	-1.85	-91.10
17	-7.00	-0.08	-98.10
18	3.40	-0.24	-94.69
19	-4.08	0.66	-98.77
20	-0.74	-1.24	-99.52
21	-12.13	0.79	-111.65
22	0.52	-1.06	-111.13
23	-5.28	-1.52	-116.41
24	-3.73	-0.58	-120.14
25	-11.57	-1.27	-131.71
26	3.68	0.00	-128.03
27	-4.24	-1.15	-132.27
28	-4.18	-1.21	-136.45
29	-1.26	-1.35	-137.71
30	6.65	-1.32	-131.06
31	-7.62	-0.45	-138.69
32	1.00	0.11	-137.69
33	-9.72	-1.52	-147.41
34	-14.26	-1.32	-161.67
35	-9.63	-0.95	-171.30
36	-5.36	0.21	-176.67

As shown in Table 2, the negative insignificant abnormal returns in the period six months before the announcement (–6 to –1) suggest that the acquiring hospitality firms neither gain nor lose in the short run. Such a finding is consistent with the findings of Jensen and Ruback (1983) and Andrew (1988). A small positive abnormal return in the first month after the announcement period suggests the introduction of possible biases due to market speculation. The significant negative CAR of –176.67 in Table 2 suggests that the equity values of acquiring firms show significant negative returns in the long run after the acquisition.[1]

Conclusion

This study investigates the impact of merger and acquisition activity on long run equity value performance of acquiring firms in the hospitality industry. The study analyzes the performance of acquiring firms using the Jensen Measure Model and the abnormal returns generated by the Market Model. Findings relevant to the Jensen Measure analysis are suggestive of the fact that, at least for the 1980–2000 period, the equity value for acquiring hospitality firms declined in the long run. Such results were consistent with the findings of Agrawal, Jaffe, and Mandelker (1992) and Loughran and Vijh (1997). On the one hand, the analysis of abnormal returns suggests that during the test period, acquiring hospitality firms neither gained nor lost in the short run. Such a finding is consistent with the findings of Jensen and Ruback (1983) and Andrew (1988). The small positive abnormal return in the first month after the announcement period is indicative of possible introduction of biases due to market speculation. On the other hand, the significant negative Cumulative Abnormal Residuals (CARs) for the acquiring hospitality firms (–176.37) suggest significant negative post-acquisition equity returns for these firms in the long run, and further corroborates the results of the Jensen Measure analysis.

Limitations

Due to a small sample size and limited availability of data, the study could not control for various factors such as the relative size of target and acquiring firms, the type of benchmark portfolio used, the medium of exchange (stock versus cash offers), and the type of merger. Also, the results for REITs and other hotel companies are not calculated separately. This study suggests that future researchers address such limitations when investigating the phenomenon of mergers and acquisitions in the hospitality industry. Finally, it must be mentioned that the results of this study are specific to acquiring firms only and do not consider the total wealth generated by the merger. Consequently, any interpretation of the research findings warrants additional care and a recognition of such limitations.

---

[1] The negative long run abnormal return in equity value is confined only to the acquiring firms and does not suggest that the total wealth created by the merger is negative. There may be a gain in the equity value of the target firms that may offset the loss of acquiring firms, hence the total market capitalization after the merger may be more than that of before.

References

Agrawal, A., Jaffe, J., & Mandelker, G. (1992). The post-merger performance of acquiring firms: A re-examination of an anomaly. *Journal of Finance, 47* (14), 1605–1622.

Andrew, W. (1988). The effect of diversification by acquisition on hospitality firm value: An empirical analysis. *Proceeding of the First Annual Research Symposium of the association of Hospitality/Financial Management Educators, 1,* 15–26.

Asquith, P. (1983). Merger bids, uncertainty and stockholder returns. *Journal of Financial Economics, 11,* 51–83.

Brown, S., & Warner, J. (1985). Using daily stock returns: The case of event studies. *Journal of Financial Economics, 8,* 205–258.

Chang, S. (1998). Takeover of privately held targets, methods of payment and bidder returns. *Journal of Finance, 53* (2), 773–785.

Frank, J., Harris, R., & Titman, S. (1991). The postmerger equity-price performance of acquiring firms. *Journal of Financial Economics, 29,* 81–96.

Jensen, M. C., & Ruback, R. S. (1983). The market for corporate control: The scientific evidence. *Journal of Financial Economics, 11,* 5–50.

Kwansa, F. A. (1994). Acquisitions, shareholder's wealth and the lodging sector: 1980–1990. *International Journal of Contemporary Hospitality Management, 6* (6), 16–20.

Loderer, C., & Martin, K. (1992). Postacquisition performance of acquiring firms. *Financial Management, 21,* 69–79.

Loughran, T., & Vijh, A. (1997). Do long term shareholders benefit from corporate acquisitions? *Journal of Finance, 52* (5), 1765–1779.

Paul, A., & Sirmans, C. (1987). An analysis for gains to acquiring firm's shareholders: The special case of REITs. *Journal of Financial Economics, 18,* 175–184.

Weston, J. F., Chung, K. S., & Hoag, S. E. (1990). *Mergers, restructuring and corporate control.* Englewood Cliffs, NJ: Prentice-Hall.

Atul Sheel, Ph.D., is an Assistant Professor of Finance in the Department of Hotel, Restaurant, and Travel Administration at University of Massachusetts, Amherst. Amit Nagpal is an M.S. candidate in the Department of Hotel, Restaurant, and Travel Administration at University of Massachusetts, Amherst.