Research on Material Assets M&A Reorganization Performance of China's A-Share Listed Companies

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Abstract

Using 2009-2012 material assets reorganization events initiated by A-share listed companies in Shenzhen and Shanghai Stock Exchanges in China as research samples, this paper compares successful M&A listed companies with failed M&A listed companies from solvency ability, operation ability, profitability, development ability and comprehensive performance indicators to measure whether M&A have an impact on acquiring companies' performance. The results show that M&A successful listed companies' short-term profitability decline compared with that of M&A failed listed companies, and with the strengthen of M&A both sides' integration, M&A successful listed companies' long-term profitability have improved. M&A events have a positive impact on acquiring companies' solvency ability. Contrast with M&A failed companies, the change in M&A successful companies' long-term solvency ability has been more obvious. For the comprehensive performance indicator calculated by factor analysis, except for the second year after merger, the success group performs better than the failed group, but only in the first year the difference is significant. For the change of total performance, there is no significant difference between the two groups.

Keywords

M&A reorganization; A-share listed companies; Material assets reorganization events; Performance comparison.

1. Introduction

Along with the steady development of global economy and gradual improvement of capital market, merger and acquisition (M&A) have been one of the most important means that companies carry out external expansion and strategic development, and play an important role in the market economic activities. According to ZERO2IPO Group's research, during the period of 2006-2014, China's M&A market has disclosed 6778 M&A events, and the transaction amount has increased from 152.55 billion dollars in 2006 to 1184.9 billion dollars in 2014. Both the quantities and amounts have risen in blowout. The performance of these M&A activities and the impact of M&A on company's business have aroused managers and researchers' general interest. Performance is an important standard to judge whether M&A success or not. Based on economic theories, such as efficiency theory, economies of scale theory, transaction cost theory and synergy effect theory, a company can improve its efficiency, increase its market competitiveness, decrease its production and transactions cost, and realize the diversification strategy through M&A. However, M&A is a complex process that involves the bargaining of both sides and other stakeholders, and its effect would be affected by many factors. This paper uses 2009-2012 material assets reorganization events initiated by A-share listed companies in Shenzhen and Shanghai

Stock Exchanges in China as research samples. Due to disclosing information fully in material assets reorganization of listed companies, and the examination and approval by the securities regulatory commission, the disclosure assisted by securities service organizations, so the research samples are more representative, which will ensure that the empirical results are more reliable. The China's Securities Regulatory Commission issued the "Measures for the administration of material assets reorganization of listed companies" to define standards to the material assets reorganization of listed companies as follows: (1)Purchasing or selling assets proportion of 50% or more in the total assets of listed company in the most recent fiscal year audited consolidated financial and accounting reports, or (2)Purchasing or selling assets generated revenue proportion of 50% or more in the total revenue of the listed company in the most recent fiscal year audited consolidated financial and accounting reports, or (3)Purchasing or selling net assets proportion of 50% or more in the net assets of listed company in the most recent fiscal year audited consolidated financial and accounting reports, and more than 50 million Yuan, or (4)Purchasing and selling assets have not reached the standards of stipulating in the preceding three paragraphs, but the China's Securities Regulatory Commission found the transaction might damage interests of listed companies or investors' legitimate rights, the major issues can be according to the principle of prudent supervision, order the listed companies disclose the relevant complementary information in accordance with the provisions of the principle， suspend from trading, retain independent financial consultants, or other securities service agency to verify and disclose. Most of previous studies have only selected the occurrence of M&A and reorganization of listed companies as the research sample, but have not focused on comparing the performance of successful M&A listed companies with failed M&A listed companies. This article compares successful M&A listed companies with failed M&A listed companies from solvency ability, operation ability, profitability, development ability and comprehensive performance indicator, which is able to restore M&A and reorganization event itself influence on the performance of listed companies.

2. Literature Review

What is the impact of M&A activities on corporate performance? Chinese and foreign scholars have conducted a lot of empirical research, and the main research methods focused on the event study method and financial indicator method.

Event study method was proposed by Fama, Fisher, Jensen and Roll in 1969[1], which is one of the most common methods to research on M&A performance. Based on the theory of efficient markets hypothesis, this method takes the enterprise's M&A behavior as an isolated event, and then establishes the announcement date as the center of "time window", generally selects 20 to 40 days before and after M&A activity as an interval, although the longer the time period, the more comprehensive the influence of the M&A event on enterprise, but also the effect of M&A is easier interfered by other unrelated factors. Based on the data of 126 cross-border M&A events launched by Chinese enterprises during 2000-2012, and event study is employed to evaluate the short-term performance of these companies firstly, and then institutional theory is used to analyze the cross-border M&A performance of the companies. Tian et al find that most companies obtain positive abnormal return through cross-border M&A activities, and the cross-border M&A performance of Chinese companies shows a favorable trend[2]. Duchin and Schmidt investigate 9854 M&A events between 1980 and 2009 to analyze the reasons for the formation of merger wave, what kind of impact to the M&A occurrence company in merger wave[3]. They find that performances of M&A companies in a merger wave compared with performance of M&A companies outside M&A wave, acquirers in wave achieved annual average excess yields lower than acquirers outside wave in the same indicators of 4.65% to 6.25%. Two years later of M&A, returns on total assets of acquirers in wave are less than the same indicator of acquirers outside wave 0.74%-2.14% on average. Most of the merger and acquisition activities are inefficient. By further comparing corporate governance qualities of M&A companies in wave and out of wave, authors find acquiring companies in wave tend to have low levels of corporate governance quality; these results are an indirect evidence of principal-agent behavior, which is more likely to drive M&A initiated in the wave of merger and acquisition. M&A empirical data show that acquiring firms declare return is negative or zero on average in the developed countries, especially the United States, and the latest empirical data show that M&A activities happened in India, acquiring firms declare return is positive on average. This is a puzzling result; India has produced positive return from M&A activities, while developed countries do not[4-6]. Banerjee et al analyze from 1995 to 2011, the Indian company merger and acquisition activity comprehensive sample data, show that before 2007 the occurrence of M&A activities on average declare positive return, but M&A happened between 2008 and 2011 gain negative announcement returns on average[7]. They further analyze acquiring company's long-term performance by measuring M&A announcement of 1 year, 2 years and 3 years. The result shows that acquirers obtain positive stock returns and good operating performance. Unlike announcement returns, the long-term performance of M&A levels do not present the downward trend over time. Comprehensive, falling over time announcement returns reflect competition for excellent target company caused by excessive takeover compensation, while most of the merger and acquisition is the behavior of rational value increase.

Financial indicator method mainly uses financial statements and other accounting data, in the year before and after M&A events, reflects the companies' profitability, operation ability, solvency ability, development ability and cash flow aspects of indicators, to assess the impact of M&A events on enterprises' performance. This method mainly investigates acquiring company's long-term performance. Li et al investigate 1999-2001 China's A-share 84 merger, acquisition and reorganization activities of listed companies, using operating cash flow return on total assets to measure and test the performance of the listed company M&A performance, the results show that M&A companies' performances improve, and subsequent performance levels drop significantly, the extent of the performance decline before even offset the performance improves[8]. In general, the merger, acquisition and reorganization of listed companies in China do not create value or improve the business performance of enterprises, but also have no damage to the company's value; the results are in conformity with practice experience. After merger and acquisition, there is a process of structure adjustment of assets reconfiguration, personnel, M&A performance change needs some time to reflect, so the company's performance after the merger decline in short-term and have an improvement in a long term. Ge takes M&A cases of right of control change of listed companies as samples during 2006-2011, and gives an empirical analysis on the relation between efficiency of M&A and method of payment by the way of financial indicators[9]. In terms of paid M&A, the efficiency of cash payment and combination payment of cash and asset is very stable, asset payment assumes a tendency of from high to low, and combination payment of cash and debt assumes a tendency of from ascent to descent. Abbas et al collect Pakistan10 Banks' financial information between 2006 and 2011,by comparing these financial ratios before and after M&A events, find that the M&A events in Pakistani Banks do not produce significant impact on financial performance[10]. Sinha et al use financial ratio analysis to test 2000-2008 merger, acquisition and reorganization activities by financial institutions in India[11]. The results show M&A activities improve shareholders' earnings in acquiring company, and no impact to acquiring company's solvency ability, M&A events have a significant relationship with company's financial performance, in the long term, merger, acquisition and reorganization activities can create value for acquiring firms.

The article selects 2009-2012 China's A-share listed companies' material assets reorganization events as research sample. In previous researches, they focus on comparing performances of M&A successful companies before and after the merger, acquisition and reorganization. Different with their work, we analyze two different groups: M&A successful listed companies and M&A unsuccessful listed companies; compare the performance between the two groups of samples during the inspection period, then compare the performance changes in M&A successful and unsuccessful listed companies before and after the merger, acquisition and reorganization. The performance indicators adopted are divided into two sorts: one is the differentiation of indicators such as solvency indicators, operation ability indictors, and profitability as well as development ability indicators; the other is the comprehensive performance indicator calculated by factor analysis. Through comparison about two groups of samples from listed companies' data, we further measure the impact of M&A activity itself on the performance of listed companies.

3. Methodology

3.1 Sample Selection and Data Sources

This paper studies the performance of listed companies before and after merger, acquisition and reorganization, the sample data is drawn from Wind information database of merger, acquisition and reorganization by first announcement date in 2009-2012 period. After getting rid of those events about listed companies that did not publish in Shenzhen and Shanghai stock exchange two years ago, we get initial sample of 215 events. According to the size of M&A assets in multiple data about same M&A event, we delete the repeated M&A events and keep M&A assets the biggest one, and we finally get 184 research sample, including 141 M&A successful sample, 76 events in Shanghai stock exchange, and 65 events in Shenzhen stock exchange, and covering 43 M&A failed sample, 19 events from Shanghai stock exchange, as well as 24 from Shenzhen stock exchange. Acquiring companies' financial information about every material assets reorganization event is from "Chinese listed company's financial indicators analysis database (2014)" developed by GTA Corporation. Details are shown in table 1.

Table 1 Distribution of the samples

	M&A success			M&A failure		
year	Shanghai	Shenzhen	In total	Shanghai	Shenzhen	In total
2009	15	7	22	4	4	8
2010	15	11	26	3	8	11
2011	16	13	29	7	5	12
2012	30	34	64	5	7	12
In total	76	65	141	19	24	43

Data source: Authors collected from Wind information database of merger, acquisition and reorganization.

3.2 Explanation of Indicators

The indicators that are used to make a comparison between the successful group and failed group are listed in table 2.

Table 2 Explanation of indicators

Definition of indicators	Formulas to calculate
Current ratio	Current asset/Current liability
Debt to assets ratio	Total debt/Total assets
Accounts receivable turnover	Sales/Average account receivables
Inventory turnover	Cost of goods sold/Average inventory
Return on assets	Net Income/Average total assets
Return on equity	Net Income/Average common equity
Total assets growth ratio	(Total assets at end of year-Total assets at beginning of year)/Total assets at beginning of year
Net income growth ratio	(Net income of current year- Net income of last year)/Net income of last year
Performance	Calculated from factor analysis using above indicators

4. Performance Comparison

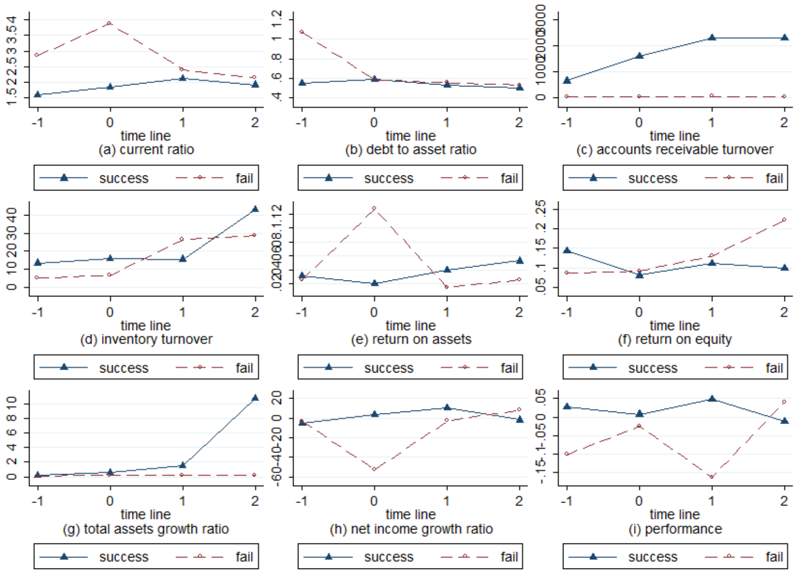

Figure 1 trend of performance indicators

Figure 1 shows the trend of these performance indicators of the two groups: successful group and failed group. From (a), we can see that the successful group's current ratio is lower than that of failed group, and after reorganization, the difference becomes smaller. From (b), we know that before M&A, the successful group's debt to asset ratio is only a half of that in failed group, but after M&A, the two groups are almost the same in this indicator. From (c) and (d), except the first year after M&A, the successful group's turnover is higher than that of failed group, and successful group's accounts receivable turnover becomes larger and larger while the failed group stays at the same level. For return on assets, on the merger year, successful group is lower but after that it becomes better than that of failed group. For return on equity, failed group performs better than successful group. Basically, for both total asset growth ratio and net income growth ratio, the successful group exceeds failed group. From (i), we can see that the successful group's total performance is better than that of failed group before and after merger in the short time. And it performs worse in the second year after merger. In all, there are some differences between the two groups and the success group performs better.

Table 3 Comparison of performance indicators between two groups

		Solvency ability		Operation ability		profitability		Development ability	
		Current ratio	debt to asset ratio	Accounts receivable turnover	Inventory turnover	Return on assets	Return on equity	Total assets growth ratio	Net income growth ratio
Y_1	success	1.613	0.553	666.495	13.535	0.032	0.143	0.221	-5.031
	failure	2.856	1.069	58.218	5.287	0.026	0.087	0.113	-3.357
	difference	-1.243	-0.516	608.276	8.248	0.0059	0.0563	0.108	-1.674
	P-value	0.0312**	0.0376**	0.47	0.0668*	0.826	0.853	0.413	0.816
Y0	success	1.857	0.592	1600.373	16.096	0.021	0.081	0.6	3.572
	failure	3.883	0.587	61.845	6.619	0.127	0.092	0.251	-52.563
	difference	-2.026	0.00437	1538.527	9.478	-0.106	-0.011	0.349	56.135
	P-value	0.0801*	0.974	0.452	0.174	0.0493**	0.928	0.38	0.101
Y1	success	2.125	0.535	2308.908	15.675	0.04	0.111	1.567	10.148
	failure	2.405	0.556	69.259	26.3	0.015	0.13	0.213	-2.925
	difference	-0.279	-0.021	2239.649	-10.625	0.025	-0.019	1.354	13.073
	P-value	0.785	0.803	0.587	0.326	0.272	0.692	0.205	0.4
Y2	success	1.93	0.502	2289.62	43.174	0.053	0.1	10.696	-1.732
	failure	2.138	0.532	51.657	28.723	0.026	0.222	0.197	8.281
	difference	-0.208	0.03	2237.963	14.451	0.027	-0.122	10.499	-10.013
	P-value	0.824	0.417	0.58	0.772	0.0136**	0.165	0.478	0.187

Note: Y_1 means one year before M&A, Y0 means the M&A year, Y1 means the first year after M&A and Y2 means the second year after M&A. *p< 0.1, **p< 0.05, ***p< 0.01.

It can be seen from table 3, one year before merger and acquisition, M&A successful companies' short-term and long-term solvency liability are significantly weaker than that of corresponding M&A failed companies. For operation ability, M&A successful companies' inventory turnover are significantly stronger than that of M&A failed companies. Profitability and development ability indicators between M&A successful companies and M&A failed companies are not significantly different. This phenomenon shows that most of the M&A successful companies tend to invest in merger, acquisition and reorganization activities through debt financing; they are more risk preference than those M&A failed companies. At the same time, the significant difference in the operation ability indicators of those two group companies shows that companies have a good ability of management that have a promoting effect to the success of merger and acquisition. In the year of merger and acquisition, the short-term solvency ability of M&A successful companies are significantly weaker than the corresponding indicator of M&A failed companies, and return on asset of M&A successful companies are also significant weaker than M&A failed companies, and other indicators have no significant difference. This result indicates that there is a drop in companies' profitability under the influence of merger and acquisition. One year after merger and acquisition, the indicators of solvency ability, operation ability and development ability between those two group companies are no longer significantly different, and M&A successful companies' return on equity in profitability significantly lower than that of M&A failed companies. This result shows that after M&A event, there is a lack of both sides' resources integration in the short term, which results a decline in the acquirers' profitability. Two years after the merger and acquisition, the indicator of return on asset in M&A successful companies are significantly higher than that of M&A failed companies. It shows that both sides gradually strengthen their resources integration with the passage of time after merger and acquisition, M&A successful acquiring companies' profitability has improved.

Table 4 Comparison of performance indicator changes between two groups

		Solvency ability		Operation ability		profitability		Development ability	
		Current ratio	Debt to asset ratio	Accounts receivable turnover	Inventory turnover	Return on assets	Return on equity	Total assets growth ratio	Net income growth ratio
Y0-Y_1	success	0.244	0.039	940.176	2.333	-0.012	-0.063	0.364	8.647
	failure	1.027	-0.482	6.627	1.295	0.101	0.005	0.138	-49.205
	difference	-0.783	0.52	933.549	1.037	-0.113	-0.068	0.225	57.853
	P-value	0.36	0.0385**	0.636	0.821	0.0522*	0.834	0.594	0.0993*
Y1-Y_1	success	0.511	-0.018	1662.916	1.909	0.008	-0.032	1.357	15.647
	failure	-0.451	-0.513	13.098	1.385	-0.012	0.043	0.1	0.432
	difference	0.963	0.494	1649.818	0.525	0.0196	-0.075	1.257	15.215
	P-value	0.382	0.0505*	0.703	0.946	0.424	0.797	0.246	0.373
Y2-Y_1	success	0.316	-0.051	1676.741	30.372	0.02	-0.044	10.551	3.239
	failure	-0.718	-0.537	-12.031	4.464	-0.0005	0.135	0.084	11.639
	difference	1.034	0.486	1688.772	25.907	0.021	-0.179	10.467	-8.399
	P-value	0.319	0.049**	0.697	0.618	0.455	0.569	0.481	0.422

Note: Y_1 means one year before M&A, Y0 means the M&A year, Y1 means the first year after M&A and Y2 means the second year after M&A. *p< 0.1, **p< 0.05, ***p< 0.01.

Table 4 shows the change of the indicators about solvency ability, operation ability, profitability and development ability in M&A successful companies and M&A failed companies before and after merger and acquisition events. Contrast with M&A failed companies, the change in merger and acquisition successful company's long-term solvency ability has been more obvious, this may be due to the combined company's asset size is bigger, M&A successful companies have taken a more cautious attitude on debt financing for major investment behavior after merger and acquisition activity in a few years. The change in profitability indicator from one year before M&A to the M&A year, M&A successful companies have a significant decline compared with M&A failed companies, the change in probability indicator between M&A successful companies and M&A failed companies have no obvious difference in long term. The changes in operation ability and development ability indicators between these two group companies have no significant difference before and after merger and acquisition activities. In all, merger and acquisition in M&A successful company cause a certain negative impact on short-term profitability, in long term, the combined company's profitability improved. Contrasts with failed companies, the change in solvency ability about successful acquiring company has an obviously positive improvement. In general, merger and acquisition activity has no significant impact on acquiring companies.

Table 5 Comparison of the total performance between two groups

	Y_1	Y0	Y1	Y2	Y0-Y_1	Y1-Y_1	Y2-Y_1
success	0.028	0.008	0.048	-0.012	0.0009	-0.006	-0.05
failure	-0.101	-0.025	-0.161	0.04	0.055	-0.124	0.147
difference	0.129	0.033	0.209	-0.051	-0.054	0.118	-0.197
P-value	0.171	0.719	0.022**	0.573	0.562	0.305	0.175

Note: Y_1 means one year before M&A, Y0 means the M&A year, Y1 means the first year after M&A and Y2 means the second year after M&A. *p< 0.1, **p< 0.05, ***p< 0.01.

Tables 3 and 4 show the comparison of different indicators between the two groups, and finally, we make a comparison of total performance and list the results in table 5. Except for the second year after merger, the successful group performs better than the failed group, but only in the first year the difference is significant. For the change of total performance, there is no significant difference between the two groups. So we cannot say that the material assets reorganization has brought significant change to the acquirers in our sample.

5. Conclusion

How is the performance change of companies after merger, acquisition and reorganization? This is a problem of concern. Most of previous studies have only analyzed the M&A successfully listed companies' performance change, this article compares successful M&A listed companies with failed M&A listed companies from solvency ability, operation ability, profitability, development ability and comprehensive performance aspects. We get the following results：

(1) In our investigation of many indicators, merger and acquisition successful group's performance is superior to corresponding failed group's performance. Account receivable turnover and total asset growth ratio indicators in M&A successful group is obviously higher than that of M&A failed group. The indicator of return on asset in M&A successful group is higher than that in M&A failed group after merger, acquisition and reorganization.

(2) In comparison of performance indicators between M&A successful and unsuccessful groups as well as comparison of performance indicator changes in M&A successful and unsuccessful groups. One year before merger and acquisition, M&A successful companies' short-term and long-term solvency liabilities are significantly weaker than corresponding M&A failed companies. One year after merger and acquisition, the indicators of solvency ability is no longer significant different. The change in profitability indicator from one year before M&A to M&A year, M&A successful companies have a

significant decline compared with M&A failed companies, the change in probability indicator between M&A successful companies and M&A failed companies have no obvious difference in long term.

(3) From the comprehensive performance indicator calculated by factor analysis, except for the second year after merger, the successful group performs better than the failed group, but only in the first year the difference is significant. For the change of total performance, there is no significant difference between the two groups.

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