Industrial Linkage, Vertical M&As and Market Anticipation

LANG Xiangxiang[1], LI Changqing[2]
(1. Business School, Dalian University of Technology; 2. Management School, Xiamen University)

Abstract: This paper examine market anticipation and find that market could anticipate vertical M&As even before they are announced. Subsequent bidder has significant positive abnormal returns during the initial M&A announcement. When combine the subsequent bidder returns at the time of initial bidder announced and at the real announcement date, the total abnormal returns is significant positive in the downstream consolidation but not significant in upstream consolidation.
Key Words: Market Anticipation; Customer-Supplier Relationship; Vertical M&As; Industrial Linkage

1. Introduction

Financial literature has always interested in the magnitude of abnormal returns to bidding firms (Malatesta, 1983; Bradley, Desai and Kim, 1988; Stulz, Walkling and Song, 1990; Andrade, Mitchell and Stafford, 2001). Much of the literature reports zero or negative announcement returns. These studies are based on the assume that the market is efficient and there are no information leakage. However, these assume may not be true. Many studies show that market can anticipate M&As, in which information leakage seems a common phenomenon (Keown and Pinkerton, 1981; Asquith, 1983; Loderer and Martin, 1990; Becher, 2009). If the capital market has anticipated M&As, then the acquirers' bid returns would be underestimated.

Cai, Song and Walkling (2011) study market anticipation of horizontal merger bids and find that less anticipated bids earn significantly higher announcement returns. Their results show that market could anticipate merger bids before merger announcement dates. However, their studies assumed that subsequent bidders are only influenced by initial bidders in the same industry. Do subsequent bidders also can be influenced by their upstream or downstream industry bidders? This is the question we concerned.

There is an increasing interest in how customer-supplier relationships influence financial decision-making, including M&A decisions (MacKay and Phillips, 2005; Fee, Hadlock and Thomas, 2006; Ahern, 2012). The countervailing market power theory of Galbraith (1952) predicts that industry consolidation in an upstream industry leads to industry consolidation in a downstream industry to counteract the monopoly power created through the initial consolidation. Horizontal mergers exert price pressure on dependent suppliers and adversely affect their performance. Consistent with the theory of countervailing power, Bhattacharryya and Nain（2011）find that consolidation activity in dependent supplier industries follows consolidation in main customer industries, indicating that consolidation activity travels up the supply chain. Ahern and Harford (2014) find that the strength of industry network connections strongly predicts inter-industry merger activity in the cross-section and merger waves propagate across the industry network over time: high levels of merger activity in an industry lead to subsequently high levels of activity in connected industries. Then the question is whether capital market could anticipate the merger diffusion among industry network or not.

In this paper, we document the anticipation of bidding activities in the Chinese capital market. We find that a subsequent bidder has significant positive abnormal returns during the initial M&A announcement; consequently, only anticipated more likely. When combine the subsequent bidder returns at the time of initial bidder announced and at the real announcement date, the total abnormal returns is significant positive in the downstream consolidation but not significant in upstream consolidation.

2. Hypotheses

Subsequent bidders' market reaction degree depends on the degree of surprise, that is, the degree they can be anticipated (Malatesta and Thompson, 1985; Song and Walkling, 2000). Vertical M&As with closely linked customers and suppliers tends to be anticipated more frequently, and the anticipation degree of those M&As is higher. Therefore, we propose that if acquirer and target firms have a closely customer-supplier relationship, the more possible can be anticipated. Those Subsequent bidders will have a significant market reaction on initial bid announcement day. When they have a bid announcement, the market reaction will be weak.

H1: In vertical integration, the more fiercely the market reaction of subsequent bidders on initial bid announcement day, the weaker the market reaction on subsequent bidders' actual announcement.

Lang (2014) find there is a asymmetrical relationship between customer and supplier. This asymmetrical can effect merger returns. When target firms are acquirers' important suppliers, the bargaining power of acquirers is weak. In this article, we study whether market can identify this bargaining power, that is, whether firms would have more merger gains if they have more bargaining power. DeLong (2001) study bank merger and find market can identify the M&As creating values and those not creating values.

H2: In vertical integration, if subsequent consider the returns during M&A announcement will underestimate the wealth effect of the merger parties. M&As with closely linked customers and suppliers tends to be

bidders are target firms' important supplier or customer, subsequent bidders will have higher excess stock returns in initial industry bid announcement day; if target firms are subsequent bidders' important supplier or customer, subsequent bidders will have less excess stock returns in initial industry bid announcement day.

3. Empirical analysis

3.1 sample selection

We use Wind database to identify all of the domestic M&A bids from January 1, 2000 through December 31, 2013. Then we select sample based on the following rules：

(1) The shareholding of target firms is below 50% before M&A announcement and exceeds 50% after M&A completed.

(2) Both of the M&A dealers are domestic firms, including public and private firms, delete human, international firms and government.

(3) The deal value is above 1 million RMB.

(4) M&A activities are already finished.

(5) The deal ways are not “administrative allocation” or “judicial adjudication”.

(6) The same firm only take place one M&A activity in the same quarter.

(7) The financial data is available in RESSET and CSMAR database.

Our screening rules produce a final sample of 655 observations.

3.2 Variables and models

Following Cai, Song and Walkling (2011), we define an initial bidder as the first firm in an industry to make an acquisition bid after a minimum dormant period of twelve months. Subsequent bidders are rival firms that announce acquisition bids after the initial bid and before the next initial bid. Different from Cai, Song and Walkling (2011), we focus on vertical mergers, that is, there is a customer-suppler relationship between merger and target firms. The define of customer-suppler relationship follows Fan and Lang (2000) and Ahern(2012). These papers construct input-output index to measure industry dependence in product market. Other variable definition shows in table 1.

Table 1 Variable definition

Variable	Definition
ICAR	Subsequent bidder returns at the time the initial bid is announced
RCAR	Subsequent bidder returns at the announcement time
$Input_{TA}$	Target firm is suppler
$Output_{AT}$	Target firm is customer
$Input_{AT}$	Acquirer firm is suppler
$Output_{TA}$	Acquirer firm is customer
$Cluster_{A}$	Cluster coefficient of Acquirer industry network
$Cluster_{T}$	Cluster coefficient of target industry network
Toehold	Shareholding before Acquirer announcement
RelatedDeal	Connected transaction
RelativeSize	Relative size between Acquirer and target firms
Size	The size of Acquirer firms
M/B	Market/Book value
Lev	The capital structure of Acquirer firms
Cash	The cash holding of Acquirer firms
Gross Margin	The performance of Acquirer firms

To examine hypothesis 2, we examine multivariate regressions of rival returns at the time the initial bid is announced using the following specification:

$$\mathrm{ICAR} = \alpha_0 + \alpha_1 \mathrm{Output}_{AT} + \alpha_2 \mathrm{Input}_{TA} + \alpha_3 \mathrm{Output}_{TA} + \alpha_4 \mathrm{Input}_{AT} + \alpha_5 \mathrm{Cluster}_{T} + \alpha_6 \mathrm{Cluster}_{A} + \alpha_7 \mathrm{Toehold} + \alpha_8 \mathrm{RealtedDeal} + \alpha_9 \mathrm{RelativeSize} + \alpha_{10} \mathrm{Size} + \alpha_{11} \mathrm{Lev} + \alpha_{12} \mathrm{Cash} + \alpha_{13} \mathrm{GrossMargin} + \mathrm{Year} + \mathrm{Industry} + \varepsilon \quad (1)$$

3.3 Empirical Results

Tables 2 shows the result of following M&A sample group, in which the relationship of Customers and suppliers is very close. In the downstream vertical integration which means buyer is supplier and Target enterprise is customer, For the M&A of which the relationship of Customers and suppliers is very close（$Output_{AT}$ or $Input_{AT}$>0.01）, the market return of the initial M&A announcement period and actural M&A announcement period of the industry are positive,. That is ICAR(-4, -2) and RCAR(-1, 1) are positive. But in the sample of $Output_{AT}$>1%, the market anticipation ICAR(-4, -2) is insignificant. That is because the size of M&A sample divided by 1% standard is very small, part market anticipation return is divided to sample group of $Output_{AT}$<1%. So, in table 2, market anticipation of $Output_{AT}$ is significantly positive.

In the upstream vertical integration which means Target enterprise is supplier and buyer is customer, For the M&A of which the relationship of Customers and suppliers is very close（$Output_{AT}$ or $Input_{AT}$>0.01）, the probability of M&A anticipated by market are very high, which can get excess return rate in the initial M&A announcement period because ICAR(-4, -2) is significantly positive. RCAR(-1, 1) is positive but not significant, which means the market response of actual M&A announcement period is not significant. For the M&A of which the relationship of Customers and suppliers is not close（$Output_{AT}$ or $Input_{AT}$<0.01）, the probability of M&A anticipated by market are very low. ICAR(-4, -2) is positive but not significant, which means the market response of initial M&A announcement period is not significant. AT the same time, in the actual M&A announcement period, market response of M&A is not significant, as RCAR(-1, 1) is not significant. So, In the upstream Vertical integration, the following M&A of which the Input-output relationship is not close could not create value for Shareholders. This result is the same with the view that M&A party could not get benefit from M&A.

The result of table 2 also means excess

return rate of initial M&A announcement period is larger than the excess return rate of actual M&A announcement period. So, the Wealth effect of buyer would be underestimated when only considering the market response of actual M&A Announcement period.

Table 2. Market anticipation and announcement effect of high Input-output relationship

Input-Output Relationship	Abnormal Returns	Mean	Obser-vations
(1) Upstream consolidation sample			
$Output_{AT}>0.01$	ICAR(-4, -2)	0.28%	140
	RCAR(-1, 1)	0.97%**	140
$Output_{AT}<0.01$	ICAR(-4, -2)	0.35%*	515
	RCAR(-1, 1)	0.09%	515
$Input_{AT}>0.01$	ICAR(-4, -2)	0.48%*	216
	RCAR(-1, 1)	0.68%*	216
$Input_{AT}<0.01$	ICAR(-4, -2)	0.26%	439
	RCAR(-1, 1)	0.08%	439
(2) Downstream consolidation sample			
$Output_{TA}>0.01$	ICAR(-4, -2)	0.75%**	243
	RCAR(-1, 1)	0.01%	243
$Output_{TA}<0.01$	ICAR(-4, -2)	0.09%	412
	RCAR(-1, 1)	0.43%	412
$Input_{TA}>0.01$	ICAR(-4, -2)	0.56%**	252
	RCAR(-1, 1)	0.12%	252
$Input_{TA}<0.01$	ICAR(-4, -2)	0.20%	403
	RCAR(-1, 1)	0.37%	403

"A" denote acquirer firms and "T" denote target firms. ***, ** and * denote statistical significance at 1%, 5% and 10% levels, respectively.

Table3 shows the results of Hypothesis test 2. When the target enterprise is the VIP of M&A party, which means the bargaining power of M&A party is low, the market anticipation of M&A party is significantly positive ($Output_{AT}$ is significantly positive). The market anticipation can only recognize Vertical integration of which the relationship of Customers and suppliers is very close, but could not recognize bargaining power of merger and acquisition parties. Which means the market anticipation can only recognize the relationship of Customers and suppliers, but could not recognize the Asymmetric relationship of Customers and suppliers.

Table 3. Customers-suppliers relationship and market anticipation

	Dependent variable= ICAR（-4，-2）				
	(1)	(2)	(3)	(4)	(5)
$Output_{AT}$	0.086**	0.086**	0.086**	0.087**	0.084**
	(2.08)	(2.48)	(2.48)	(2.50)	(2.04)
$Input_{TA}$	-0.028		-0.001		
	(-0.64)		(-0.04)		
$Output_{TA}$	0.013			0.007	
	(0.91)			(0.65)	
$Input_{AT}$	0.002				0.003
	(0.04)				(0.07)
$Cluster_A$	-0.050**	-0.052**	-0.052**	-0.051**	-0.052**
	(-2.30)	(-2.44)	(-2.44)	(-2.37)	(-2.40)
$Cluster_T$	0.001	0.005	0.005	0.003	0.005
	(0.06)	(0.32)	(0.31)	(0.20)	(0.30)
Toehold	-0.009	-0.010	-0.010	-0.009	-0.010
	(-0.81)	(-0.88)	(-0.88)	(-0.84)	(-0.87)
RelatedDeal	0.004	0.004	0.004	0.004	0.004
	(1.11)	(1.13)	(1.13)	(1.14)	(1.13)
RelativeSize	0.015	0.015	0.015	0.014	0.015
	(0.55)	(0.57)	(0.57)	(0.54)	(0.57)
Size	0.006***	0.006***	0.006***	0.006***	0.006***
	(3.52)	(3.60)	(3.59)	(3.52)	(3.59)
Lev	-0.019	-0.018	-0.018	-0.019	-0.018
	(-1.63)	(-1.54)	(-1.53)	(-1.58)	(-1.53)
Cash	-0.017	-0.017	-0.017	-0.017	-0.017
	(-1.11)	(-1.13)	(-1.13)	(-1.13)	(-1.13)
GrossMargin	0.022*	0.021	0.021	0.021	0.021
	(1.67)	(1.63)	(1.63)	(1.65)	(1.62)
Intercept	-0.090**	-0.093**	-0.093**	-0.091**	-0.093**
	(-2.41)	(-2.50)	(-2.49)	(-2.43)	(-2.49)
Industry	√	√	√	√	√

Year	√	√	√	√	√
N	643	643	643	643	643
Adj-R^2	0.0708	0.0740	0.0725	0.0732	0.0725

"A" denote acquirer firms and "T" denote target firms. ***, ** and * denote statistical significance at 1%, 5% and 10% levels, respectively.

4. Conclusion

This paper empirical tests market anticipation. The results show that subsequent bidders have significant positive abnormal returns at the time the initial bidder announced. The announcement date returns underestimate bidders' wealth effect. This can explain the puzzling problem in the past that why there are so many firms initiate M&As even if they seems have negative announcement returns.

Market anticipation can be effected by customer-suppler relationship between acquirer and target firms. The tighter the relationship between merger firms, the more probably the merger is anticipated by market. When combine the subsequent bidder returns at the time of initial bidder announced and at the real announcement date, the total abnormal returns is significant positive in the downstream consolidation but not significant in upstream consolidation. The explanations of these results need further research.

References

[1]Ahern, K. R. Bargaining power and industry dependence in mergers [J]. Journal of Financial Economics, 2012, 103(3): 530-550.

[2]Ahern, K. R. and Harford, J. The importance of industry links in merger waves [J]. The Journal of Finance, 2014, 69(2): 527-576.

[3]Andrade, G., Mitchell, M. and Stafford, E. New evidence and perspectives on mergers [J]. Journal of Economic Perspectives, 2001, 103-120.

[4]Asquith, P. Merger bids, uncertainty, and stockholder returns [J]. Journal of Financial Economics, 1983, 11(1): 51-83.

[5]Becher, D. A. Bidder returns and merger anticipation: Evidence from banking deregulation [J]. Journal of Corporate Finance, 2009,15(1): 85-98.

[6]Bhattacharyya, S. and Nain, A. Horizontal acquisitions and buying power: A product market analysis [J]. Journal of Financial Economics, 2011, 99(1): 97-115.

[7]Bradley, M., Desai, A. and Kim, E. H. Synergistic gains from corporate acquisitions and

[8]Cai, J., Song, M. H. and Walkling, R. A. Anticipation, acquisitions, and bidder returns: Industry shocks and the transfer of information across rivals [J]. Review of Financial Studies, 2011, 24(7): 2242-2285.

[9]DeLong, G. L. Stockholder gains from focusing versus diversifying bank mergers [J]. Journal of Financial economics, 2001, 59(2): 221-252.

[10] Fan, J. P. and Lang, L. H. The measurement of relatedness: An application to corporate diversification [J]. The Journal of Business, 2000, 73(4): 629-660.

[11]Fee, C. E., Hadlock, C. J. and Thomas, S. Corporate equity ownership and the governance of product market relationships [J]. The Journal of Finance, 2006, 61(3): 1217-1251.

[12]Galbraith, J. K. A Theory of Price Control [M]. Harvard University Press Cambridge, 1952.

[13]Keown, A. J. and Pinkerton, J. M. Merger announcements and insider trading activity: An empirical investigation [J]. The Journal of Finance, 1981, 36(4): 855-869.

[14]Lang, X. X. Customer-Supplier Relationship and M&As[D]. Xiamen University, 2014.

[15]MacKay, P. and Phillips, G. M. How does industry affect firm financial structure? [J]. Review of Financial Studies, 2005, 18(4): 1433-1466.

[16]Malatesta, P. H.The wealth effect of merger activity and the objective functions of merging firms [J]. Journal of financial economics, 1983, 11(1): 155-181.

[17]Malatesta, P. H. and Thompson, R. Partially anticipated events: A model of stock price reactions with an application to corporate

acquisitions [J]. Journal of Financial Economics, 1985,14(2): 237-250.

[18]Song, M. H. and Walkling, R. A. Abnormal returns to rivals of acquisition targets: A test of the acquisition probability hypothesis [J]. Journal of Financial Economics, 2000,55(2): 143-171.

[19]Stulz, R. M., Walkling, R. A. and Song, M. H.The distribution of target ownership and the division of gains in successful takeovers [J]. The Journal of Finance, 1990,45(3): 817-833.