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Director Connection and Target Selection of M&A from the Perspective of Resource Dependence

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ABSTRACT
Based on the resource dependence theory, this paper selects 549 M&A events of Chinese A-share listed companies from 2003 to 2014, and forms M&A transaction samples according to different criteria to test the role of director connection in solving the information asymmetry problem in M&A process. The results show that the company with director connection is more likely to be selected as the M&A target, and the director connection can effectively reduce the degree of information asymmetry between the two parties. When the potential target company or M&A company has serious value information asymmetry, the private information transmitted by director connection becomes more valuable, and director connection can make better use of its information advantages and have a greater impact on the selection of M&A target. Director connection provides an effective channel for the transmission of private information in the process of merger and acquisition, which can slow down the inefficient behavior caused by information asymmetry in the process of M&A.
Keywords*: M&A; Director linkage; Information asymmetry; Private information*

1. INTRODUCTION

The problem of information friction in M&A market has been widely proved by academia (Akerlof, 1970; Hansen, 1987). The adverse selection caused by the information asymmetry between the two parties will not only affect the efficiency of M&A due to the bid issue (Fishman, 1989), but also reduce the performance of M&A due to the increase of M&A costs (Cai and Sevilir, 2012; Chen Shihua et al., 2013), when the degree of information asymmetry is serious, those otherwise successful M&A transaction plans may fail (Hansen, 1987).
Scholars also found that in many M&A transactions, there is a director connection between the target company and the acquiring company (Cukurova, 2012; Chen Shihua, 2013; Wei Le, 2013). According to social network theory, the establishment of directors' network linkage becomes an important channel for enterprises to transmit information to the outside world, which is conducive to reducing the degree of information asymmetry between enterprises and the outside world, thus affecting the merger and acquisition behaviors of network participants. Schonlaua and Singh (2009)[1] found that the centrality of director network reflects the connectivity and position of the board of directors in a large corporate network. The higher the network centrality is, the more open and transparent the information is, and the more easily the connected companies can obtain the information of this company. Therefore, the company with high network centrality is more likely to become the target of merger and acquisition. However, these studies just focus on how information can be better spread outward through the director network, but do not consider how external information can affect the internal decisions of enterprises through the network. Therefore, the research based on social network theory only considers the information transmitted outside by the target company or the M&A company, and does not focus on the mutual information exchange between the target company and the M&A company, so it cannot fully explain the important impact of the private information transmitted through director connection on the decision-making of both M&A parties.
According to resource dependence theory, director connection, as an informal relationship mechanism, provides a legal way for private information communication and exchange between the two parties (Pfeffer and Salancik, 1978)[2]. In the process of merger and acquisition, director connection builds an important channel for both parties to transmit information related to M&A, which can effectively alleviate the degree of information asymmetry between the two parties and help the merger and acquisition enterprises to make the right choice. Rousseau and Stroup (2013)[3] believed that if M&A companies select target companies within the director connections, M&A companies will know better about the private information and real value of potential target companies, which can reduce the risk of overpayment and improve M&A value. However, the research based on resource dependence theory lacks empirical data support. Therefore, this paper attempts to test whether private information connected by directors can help both parties to solve the information asymmetry dilemma mentioned above in the process of M&A. Furthermore, from the perspective of the target company

and the acquiring company, we examine how the director connection will affect the target selection of M&A when the degree of information asymmetry is high.

2. THEORETICAL ANALYSIS AND HYPOTHESIS FORMULATION

Information in M&A is divided into private information and public information, among which private information refers to the undisclosed information of the potential trading parties (Haunschild and Beckman, 1998)[4]. When the M&A company only relies on public information, the information available is limited, which will lead to the problem of information asymmetry. Information asymmetry between the two parties in M&A will not only hinder the smooth development of M&A transactions (Hansen, 1987), but also be one of the important reasons for the unsatisfactory performance of M&A (Aliberti and Green, 1999; Yan Guowan and Xie Guanghua, 2017).

Peng and Luo (2000)[5] point out that informal institutions will play an extremely important role in the context of weakened formal institutions in transition economies, and enterprise managers are forced to obtain information, explain regulations and complete transactions through various connections. Fan Gang et al. (2011)[6] believe that for China, which is in the period of economy transition, the formal market system is still not perfect. Therefore, under the background of imperfect formal system of Chinese M&A market, it is particularly important to solve the information friction caused by information asymmetry between the two parties. According to the resource dependence theory, director connection is a common way of interorganizational cooperation. By appointing representatives of the external organization as its director board members, it can obtain richer resources and reduce environmental uncertainty. In M&A activities, if there is a director connection relationship between the M&A company and the target company, then, as an informal relationship mechanism, director connection will provide a legal way to promote the communication and exchange between the potential target company and the M&A company, provide an effective channel for the transmission of information in the M&A process, and alleviate the information friction caused by the lack of formal system. Before the merger, the associate directors who hold positions at both parties can help the merging company reduce the cost of information search and investigation, improving the credibility of information (Nahapiet and Ghoshal, 1998)[7]. Associate directors can also provide basic information of M&A companies to potential target companies, explain merger intention, help M&A executives make correct judgments, and improve the probability of M&A offer being accepted (Useem, 1984). In the process of M&A, director connection can help M&A companies to obtain the real value of the target company, improve the rationality of the bid of merger companies, and reduce the risk of overpayment (Cai and Sevilir, 2012). In addition, the target company can also obtain relevant information about the value of the M&A companies, so that the real value will not be underestimated, so as to reduce the divergences and conflicts between the two parties on the acquisition price, reduce the negotiation cost and increase the synergistic benefits of the acquisition. After the completion of M&A, the M&A company needs to have a more comprehensive and detailed understanding of the target company, so as to organically combine the two different operation systems (management, production, marketing, service and corporate culture) into one (Cui Yongmei et al., 2012). At this time, the communication and exchange of information is more important, and the connection of directors can help M&A companies to obtain the above important information truly and effectively. Moreover, the management layer and employees of the target company can also convey some requirements and ideas to the M&A company through the connection, so as to help the merger company improve the integration effect of enterprise resource factors after M&A, avoid brain drain and acclimatization of corporate culture, and reduce the integration costs. Therefore, this paper proposes:

Hypothesis 1: The company with director connection relationship with the merger company is more likely to become the potential target company of M&A.

In larger and better performing companies, information can be transmitted outward more smoothly (Hong et al., 2000; Kang and Kim, 2008). If the potential target company has the above good ability of transmitting information and can effectively reduce the degree of information asymmetry about its own value, then the private information of the potential target company acquired through director connection will be less, and the influence of director connection on the target selection will also be weakened. However, if the potential target company does not have the ability, the acquiring company has very limited information about the potential target company, and the degree of information asymmetry is high, the director connection will help the acquiring company to learn about the "trade secrets" of the potential target company in the decision-making process, and effectively reduce the information asymmetry of both parties (Nahapiet and Ghoshal, 1998). In this case, the private information transmitted by the director connection will be more valuable. This paper believes that when the degree of information asymmetry about potential target companies is high, director connection can better play the role of information channel, and at this time, director connection will have a greater impact on the selection of M&A targets. Therefore, this paper proposes:

Hypothesis 2: When the degree of information asymmetry about potential target companies is high, director connection will have a greater impact on the selection of potential target companies.

Because the acquiring company knows its own value better than the potential target company, the information asymmetry about the value of the acquiring company also arises (Hansen, 1987). Debt will weaken the company's financing ability. When the debt ratio of M&A companies is high, M&A companies with financing constraints will have to choose stocks as the payment method of merger

(Almazan et al., 2010). In this case, in order to avoid underestimating the payment cost of M&A, it is more willing to choose the company with director connection for M&A, because it is conducive to transmitting its value information to the potential target company. Therefore, this paper holds that as a channel for the private value information transmission, when M&A companies face financing constraints due to high leverage ratio, the impact of director connection on the target selection will be enhanced. Therefore, this paper proposes:

Hypothesis 3: When M&A companies have financing constraints, director connection will have a greater impact on the selection of potential target companies.

3. PREPARE YOUR PAPER BEFORE STYLING

3.1. Model setting and variable description

Based on the studies of Bodnaruk et al. (2009), Cukurova (2012) and Chen Shihua et al. (2013), combined with the characteristics of Chinese merger behavior, this paper adopts Probit regression equation to test the hypotheses proposed.

$$MT=BI+Control+\varepsilon$$

Among them, MT (Merger Target) is the variable of the potential target company in the merger. When the company is the real potential target company in the merger, the value is 1; otherwise, it is 0. BI (Board Interlocks) refers to the director connection. According to Stuart and Yim (2010), if there is a director x on the board of company j at time t who is also a director of company k at time t1, t1 is greater than or equal to t-4 and less than or equal to t, then there is a director connection between company j and company k at time t, the value is 1, otherwise it is 0.

In order to investigate the impact of director connection on M&A target selection under the condition of the information asymmetry of potential target companies, this paper selects the substitution variable of information asymmetry level from four perspectives based on previous studies, that is, target company performance (ROE), target company size (SMALL), standard deviation of target company's stock return (STD), and industry diversity of target company and acquiring company (SI). In addition, this paper also examines the role of director connection in M&A target selection when M&A firms have financing constraints. According to previous studies, the financing constraints of M&A companies can be measured from three perspectives, that is, performance of target company (ROE), size of target company (SMALL), standard deviation of target company's stock return (STD), and industry diversity (SI). In addition, this paper also examines the role of director connection in target selection when M&A firms have financing constraints. According to previous studies, the financing constraints of M&A companies can be measured from three perspectives, that is, the asset liability ratio (ADE), the financial flexibility (ACR) and accounting liquidity (AQ) of M&A companies.

Control is the Control variable, this paper selects stock return (LAGR), stock volatility (VOLR), asset quality (BM), company size (MV), debt ratio (DE), regional heterogeneity (SP), executive shareholding (SHARE), ownership concentration (CRL), growth (GROWTH), degree of undervaluation (PER), degree of industry competition (HHI), duality (DUAL), board independence (IND), board size (SCALE), year (YEAR) and industry (IND) as the control variables of the model in this paper.

3.2. Samples and data sources

The data used in this paper came from CSMAR database, and some missing data were manually supplemented through cninfo.com and Sina finance and economics.com. Director connection data were obtained by matching the age, sex and resume of directors with the same name among listed companies. The complete data of director connection can only be obtained by collating personal data of directors for 5 consecutive years before the occurrence of M&A. However, the earliest disclosure year of personal information of directors in CSMAR database is 1999, so the sample range of director connection data in this paper is from 1999 to 2014, and the sample range of M&A events is from 2003 to 2014. The samples of M&A events are screened according to the following principles :(1) Eliminate the sample that the M&A parties are not Chinese A-share listed companies; (2) Eliminate the samples of unsuccessful M&A transactions; (3) Excluding the restructuring samples of asset divestiture, asset replacement, debt restructuring and share repurchase; (4) Eliminate the samples of multiple transactions in one day between the two parties; (5) Excluding samples with transaction amount less than 5 million yuan; (6) Eliminate the missing samples of other variables. After the above processing, the final number of M&A samples in this paper is 549, among which the number of samples with director connection between two merger parties is 111.

In order to test the hypotheses proposed in this paper, following the practice of Bodnaruk et al. (2009), this paper selected A-share listed companies belonging to the same industry as the target company (manufacturing was classified according to the secondary code and other industries are classified according to the primary code) and with similar size (the market value of the company is in the range of 70% to 130% of the market value of the real target company) with the target company as paired samples to construct the control group, and a total of 13,107 matching samples and 13,255 overall samples were obtained. To eliminate the influence of outliers, this paper winsorize the upper and lower 1% of all continuous variables.

4. EMPIRICAL RESEARCH RESULTS

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4.1. Descriptive statistical analysis

Table 1 gives the descriptive statistics results of paired samples, and adapts mean t-test and rank sum test for the differences between connected and unconnected samples. There are significant differences between the samples with and without the director connection: the possibility of the companies within connected samples becoming potential target companies is significantly higher than that of the companies within unconnected samples; the probability of companies in connected group being of small scale is significantly higher than that of companies in unconnected group; the industry, regional heterogeneity and financial flexibility of M&A parties in the companies within connected group are significantly smaller than those within unconnected group. The above statistical results are basically consistent with the theoretical prediction in this paper.

Among the paired samples, the number of director connection samples is 148, among which 105 samples actually have M&A events and 43 samples are generated through pairing.

Table 1. Descriptive statistics of sample selection of potential target companies

Variable	total samples		coupled samples		uncoupled samples.		T-test	rank sum test
	mean	*median*	*mean*	*median*	*mean*	*median*		
MT	0.040	0.000	0.743	1.000	0.033	0.000	-47.167***	-43.647***
SMALL	0.248	0.000	0.249	0.000	0.182	0.000	-1.855*	-1.855*
STD	13.323	12.382	13.411	11.845	13.322	12.384	-0.217	-0.144
ADE	2.627	0.910	3.361	1.126	2.618	0.910	-1.013	-1.084
ACR	0.511	1.000	0.475	0.000	0.512	1.000	1.654*	1.687*
AQ	1.465	1.172	1.482	1.147	1.465	1.172	-0.205	0.365
ROE	0.066	0.066	0.087	0.076	0.066	0.066	-0.664	-0.094
Samples	13255	13255	148	148	13107	13107	-	-

*Note: *, ** and *** represent significance levels of 10%, 5% and 1% respectively.*

4.2. Empirical test results

The probit regression results of director connection and M&A target selection are shown in Table 2. Table 2 gives the regression results of paired samples which are paired based on the principle of the same industry and similar scale. The director connection (BI) coefficient of model 1 is significantly positive at the level of 1%, indicating that companies with director connection are more likely to become potential target companies. Hypothesis 1 is verified.

In order to test the moderating effect of information asymmetry of potential target companies on the director connection relationship and M&A target selection, based on Model 1,this paper respectively introduced the interactive items between director connection and performance of potential target company (BI*ROE), interactive items between director connection and size of potential target company (BI*SMALL), interactive items between director connection and standard deviation of stock return of potential target company (BI*STD), and interactive items between director connection and industry diversity of both parties (BI*SI), and Model 2, Model 3, Model 4 and Model 5 are formed. The regression coefficient of BI*ROE is significantly negative at the level of 5%, indicating that when the performance of potential target companies is poor, companies with director connection with M&A companies are more likely to become potential target companies. The regression coefficient of BI*SMALL is significantly positive at the level of 10%, indicating that when the company size is small, companies with director connection are more likely to become potential target companies. The regression coefficient of BI*STD does not reach the significance level of 10%, indicating that the risk of potential target company has no significant moderating effect on the relationship between director connection and potential target company selection. The regression coefficient of BI*SI is at the significance level of 10%. The results once again prove the importance of director connection transmitting the information of potential target companies in diversified transactions when merger companies are at information disadvantage. In general, the above results are consistent with the hypothesis that director connection helps overcome the value information asymmetry problem of potential target companies, and hypothesis 2 is verified. When the company's previous performance is poor, the company is small, or in different industries with the M&A

company, the director connection can transmit the information about the real value of the connected company to the M&A company, so as to improve the possibility of the connection company becoming the potential target company of M&A. The director connection plays an important role in the selection of M&A targets. In order to test the moderating effect of financing constraints on the relationship between director connection and M&A target selection, based on Model 1, this paper respectively introduced the interaction term between director connection and asset liability ratio of M&A company (BI*ADE), interaction term between director connection and financial flexibility of M&A company (BI*ACR) and interaction term between director connection and accounting liquidity of M&A company (BI*AQ) to form Model 6, Model 7 and Model 8. The regression coefficient of BI*ADE is not significant, indicating that the higher financial leverage of M&A companies does not make them more willing to choose the companies with director connection as potential target companies. The regression coefficient of BI*ACR is significantly negative at the level of 10%, indicating that M&A companies with low financial flexibility are more inclined to select companies with director connection as potential target companies. The regression coefficient of BI*AQ is significant at the level of 5%, indicating that M&A companies with liquidity constraints are more inclined to choose companies with director connection as potential target companies.

The above results are consistent with the hypothesis that director connection is conducive to overcoming the value information asymmetry of M&A companies, and hypothesis 3 is verified. When the financial flexibility of the M&A company is poor or the liquidity is constrained, the director connection can transmit the information about the real value of the M&A company to the connected company, so as to improve the possibility of the connected company becoming potential target company. The director connection plays an important role in the selection of M&A targets.

Table 2. Probit regression results

Model	model1	model2	model3	model4	model5	model6	model7	model8
BI	2.250*** (16.18)	2.609*** (12.29)	2.170*** (14.78)	2.137*** (4.24)	2.353*** (12.76)	2.274*** (15.15)	2.410*** (9.92)	2.718*** (10.89)
ROE	0.937*** (2.91)	1.094*** (3.31)	0.874*** (2.63)	1.228*** (3.03)	0.892*** (2.71)	0.586* (1.75)	1.394*** (3.31)	0.669* (1.91)
BI*ROE		-3.778** (-2.39)						
SMALL			-0.241* (-1.92)					
BI*SMALL			0.835* (1.77)					
STD				0.019* (1.72)				
BI*STD				0.009 (0.26)				
SI					0.177*** (2.75)			
BI*SI					0.216* (1.78)			
ADE						-0.001 (-0.35)		
BI*ADE						0.017 (0.88)		
ACR							0.045 (0.57)	
BI*ACR							-0.654* (-1.83)	
AQ								0.032 (1.06)
BI*AQ								-0.248** (-1.97)
CONTROL	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
C	-1.665 (-3.81)	-1.646*** (-3.76)	-1.806*** (-3.09)	-2.554*** (-4.10)	-2.025*** (-3.58)	-1.721*** (-2.98)	-1.600*** (-3.50)	-1.980*** (-3.38)
MR2	0.264	0.266	0.268	0.2617	0.267	0.271	0.246	0.297
LR	872.79	878.76	858.82	621.00	853.21	819.53	502.71	849.44
Prob LR	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Samples	13255	13255	13255	13255	13255	13255	13255	13255

Note: () is the Z value, and *, * *, * * * represent the significance levels of 10%, 5% and 1% respectively.

5. CONCLUSION

Based on the theory of resource dependence, this paper analyzes the role of director connection in the selection of M&A targets in the environment of information asymmetry. The results show that the company with a director bond with the acquiring company is more likely to be selected as the M&A target, and this conclusion is still valid when the potential target companies are divided according to different company characteristics; M&A companies prefer to choose companies with poor performance in the past, small scale, or connected with them in different industries as potential target companies; when the financial flexibility of the M&A company is poor or the liquidity is constrained, the company with director connection with the M&A company is also more likely to become the potential target company. The above results show that the private information of M&A companies and potential target companies is of great value. The connection of directors establishes a channel to transmit the private information of M&A parties, which helps overcome the information asymmetry problem. With the increase of degree of information asymmetry between the two parties, the role of director connection will be more significant, and the influence on the selection of M&A target will also be enhanced. Director connection can alleviate the low-efficient behavior caused by the potential target company’s or the acquiring company’s information advantage the in the process of M&A, which is worth further study.

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