

Financing Constraints, Payment Methods and M&A Performance

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ABSTRACT. This paper selects 211 M&A transaction events of A-share listed cultural enterprises from 2013 to 2016 as a sample to study the impact of financing constraints on M&A performance. Through empirical analysis, it is found that the financing constraints of cultural enterprises are positively related to M&A performance. It is beneficial for cultural enterprises to choose stock payment in the process of mergers and acquisitions; the choice of stock payment in the process of mergers and acquisitions of cultural enterprises has a positive impact on the performance of mergers and acquisitions; in the process of financing constraints affecting the performance of cultural enterprises, the payment method play an intermediary role.

1. INTRODUCTION

As China's economy continues to prosper, the demand for cultural and spiritual life continues to increase. In order to meet the strong demand of society for cultural life, the cultural industry is developing faster and faster and is playing an increasingly important role in the national economy. The State Council formally formulated and promulgated the "Cultural Industry Revitalization Plan", marking the beginning of the cultural industry as a strategic industry in China, and cultural enterprises have also set off a boom in mergers and acquisitions. However, for many cultural enterprises, many times, even if there are some good ideas that can allow enterprises to expand the market and attract consumers, it is often impossible to achieve the funds accumulated by themselves (Bu, et al., 2010)¹. The problem of financing constraints exists in Chinese cultural enterprises, which makes the issue of M&A funds a difficult problem in the process of M&A, which further affects the choice of M&A payment methods. The research on the relationship between payment methods and M&A performance has deepened the understanding of the phenomenon of M&A performance differences in the capital market. A large number of empirical studies have drawn different conclusions (Dou et al., 2018)². What is the impact of financing constraints on the performance of cultural enterprises? Does the financing constraint affect the choice of payment methods and whether it affects the M&A performance of cultural enterprises? Therefore, based on the previous studies, this paper selects the M&A data of listed cultural enterprises as the research object to further explore the impact of financing constraints on the performance of cultural enterprises.

2. THEORETICAL ANALYSIS AND RESEARCH HYPOTHESIS

2.1. Financing constraints and M&A performance

In the existing literature, there are not many empirical studies on financing constraints that directly affect M&A performance. Bodnaruk et al. (2011)³ show that M&A performance is positively correlated with the degree of financing constraints of the acquirer. Yuan Weiqiu (2014)⁴ empirical research found that companies with high financing constraints tend to have higher investment efficiency and promote higher performance. Before the merger, the cultural enterprises will be constrained in financing because of the limited collateral assets and low credit. Companies with high financing constraints have limited internal financing funds, while the cost of external financing is high. This makes the company's management more cautious when investing, and the efficiency of mergers and acquisitions will be higher. Based on the above analysis, we propose the following assumptions:

H1: The higher the degree of financing constraints of cultural enterprises, the higher the performance of mergers and acquisitions.

2.2. Financing constraints and payment methods

Some scholars assume that there is no financing constraint, and study the factors influencing the choice of payment methods in the process of M&A. However, the development of China's financial system is relatively lagging behind, the listed companies generally have financing constraints (Shleifer, 2003; Xu Bo et al., 2005). Luo Qi et al. (2007) found that the financing constraints faced by small and medium-sized enterprises are more prominent. In order to alleviate the situation of external financing constraints, enterprises hold cash as a hedging tool. From the perspective of cash opportunity cost, Alshwer et al. (2011) believe that financing constraints increase the cash opportunity cost, and the main company prefers to save internal funds and adopt stock payment. Due to the limited nature of its tangible and pledged assets, cultural enterprises have more serious financing constraints in debt financing. Therefore, cultural enterprises are more inclined to choose the way of stock payment. Based on this, we propose the following assumptions:

H2: Cultural enterprises facing financing constraints in the process of mergers and acquisitions will prompt enterprises to choose stock payment methods.

2.3. Financing constraints, payment methods and M&A performance

In the process of enterprise mergers and acquisitions, the payment method has a profound impact on performance. Liu Cancan et al. (2010) believe that the financial leverage effect caused by different payment methods will have an impact on the M&A performance of enterprises. Yu Chengyong (2013) believes that the payment method has a "media role" for the relationship between financing constraints and M&A performance. The share-based payment method can optimize the equity structure of the financing-constrained company, improve the corporate governance level and improve the M&A performance. In the process of cultural enterprise mergers and acquisitions, the stock payment method can convey the good information of the enterprise development to the investors, which is conducive to improving the performance of the enterprise mergers and acquisitions. Based on this, we propose the following assumptions:

H3a: Stock payment is conducive to improving the M&A performance of cultural enterprises.

H3b: The payment method of cultural enterprises in M&A plays a mediating role in their financing constraints and M&A performance.

3. Research Design

3.1. Samples and data sources

This paper selects the cultural enterprises listed on the A-share market as the research object, and selects the cultural enterprise M&A events from 2013 to 2016 as the research sample. The samples are screened according to the following principles: (1) selecting the merger and acquisition of the cultural enterprise and having completed the transaction; (2) excluding samples with missing data; (3) M&A events using cash payment and stock payment methods were selected; (4) a company that implements multiple M&A activities within one year, using the largest transaction amount and 211 M&A events were finally obtained as samples of this article. The data and financial indicators related to M&A transactions are from CAMAR.

3.2. Model design and variable definition

The following model was constructed, using OLS regression (1) to test hypothesis 1, using Logit and Probit regression (2), respectively, to test hypothesis 2, using OLS regression (2) to test hypothesis 3.

$$\Delta ROA = \alpha + \beta_1 FC + \beta_2 Lev + \beta_3 CFO + \beta_4 Tq + \beta_5 Soe + \beta_6 Rs + \varepsilon \quad (1)$$

$$Payment = \alpha + \beta_1 FC + \beta_2 Lev + \beta_3 CFO + \beta_4 Tq + \beta_5 Soe + \beta_6 Rs + \beta_7 Top + \varepsilon \quad (2)$$

$$\Delta ROA = \alpha + \beta_1 FC + \beta_2 Payment + \beta_3 Lev + \beta_4 CFO + \beta_5 Tq + \beta_6 Soe + \beta_7 Rs + \varepsilon \quad (3)$$

The meanings of the variables in the above model are shown in Table 1:

Table 1 Sensor network experimental results

Variable type	Variable name	Variable abbreviation	definition
Explained variable	M&A performance	ΔROA	The difference between the average of the ROA for the two years after the M&A event and the average of the ROA for the two years prior to the merger
Explanatory variables	Financing constraints	FC	Drawing on the measure of financing constraints by Hadlock et al. (2010) ¹² , the absolute value of the SA index is chosen as a surrogate variable for the degree of financing constraints. $SAindex = -0.737Size + 0.043Size^2 - 0.04Age^2$
	payment method	$Payment$	The payment method is assigned 1 for stock payment and 0 for cash payment.
Control variable	Assets and liabilities	Lev	Total liabilities at the end of the year prior to the acquisition divided by total assets
	Cash flow from operating activities	CFO	The ratio of net cash flow from operating activities to total assets in the year prior to mergers and acquisitions
	Tobin Q	Tq	Market value of the year before the merger A / (total assets - net intangible assets - net goodwill)
	Nature of business	Soe	Virtual variable, if it is a state-owned enterprise, the value is 0, otherwise it is 1
	Relative transaction size	Rs	The ratio of the transaction amount to the total assets at the end of the year before the transaction of the acquirer
	The shareholding ratio of the largest shareholder	Top	Reflect the concentration of equity in the company

4. EMPIRICAL TEST

4.1. Descriptive statistics of the main variables

It can be seen from Table 2 that the average financing constraint is 0.6, indicating that most of the sample companies belong to high-financing companies; the average value of M&A payment methods is less than 0.5, indicating that the M&A events mainly adopt cash payment methods. The standard deviation of the company's asset-liability ratio is 0.19, indicating that the difference in solvency of the company corresponding to the M&A event is not large. The standard deviation of the company's Tobin q is 6.48, which indicates that there is a big gap in investment opportunities among cultural enterprises. The minimum value of the relative transaction size is 0.01, and the maximum value is 14.05, indicating that the sample company's M&A transaction amount accounts for a large difference in the proportion of total assets.

Table 2 Descriptive Statistics of the Main Variables

Variable	Sample size	Maximum	Minimum	Median	Standard deviation	Mean
ΔROA	211	0.25	-0.24	-0.01	0.07	-0.01
FC	211	1.00	0.00	1.00	0.50	0.60
$Payment$	211	1.00	0.00	0.00	0.37	0.16
Lev	211	0.87	0.03	0.27	0.19	0.30
Cfo	211	0.29	-0.27	0.04	0.08	0.05
Tq	211	35.74	1.13	4.1725	6.48	6.39
Soe	211	1.00	0.00	1.00	0.36	0.84
Rs	211	14.05	0.01	0.11	2.18	0.72
Top	211	0.72	0.11	0.28	0.14	0.32

4.2. Interactive statistics of financing methods and payment methods

According to the previous definition of the financing constraint variable, the financing constraint value of each event is compared with the average of all financing constraint values. The greater than the average is classified as the high financing constraint group, and the less than the average value is classified as the low financing constraint group. From Table 3, we can find that the proportion of cash payment methods in the cultural enterprise mergers and acquisitions occurred in 2013~2016 was 82.938%, occupying the main position, and the share payment did not appear in large numbers. This may be because cultural enterprises have difficulties in unifying the system and difficult to materialize products in the process of listing. Most of them use free funds or credit funds to meet the capital needs of enterprises. Equity financing is rarely used in the financing process.

Table 3 Interactive descriptive statistics of financing methods and payment methods

	Stock payment (proportion)	Cash payment (proportion)	total
High financing constraint group	15 (23.810%)	48 (76.190%)	63
Low financing constraint group	21 (14.189%)	127 (85.811%)	148
total	36 (17.062%)	175 (82.938%)	211

4.3 Empirical regression results

The regression results of model (1) in Table 4 indicate financing constraints are positively correlated with M&A performance, which is significant at 5% level, indicating that the higher the level of financing constraints, the more the performance of M&A is good. Tobin q has a significant negative correlation with M&A performance, indicating that the worse the growth of the company, the better the M&A performance. The relative transaction size and M&A performance are significantly positively correlated at the 1% level, indicating that the larger the relative transaction size, the higher the transaction cost of M&A. The more cautious the M&A activity of the merger, the higher the M&A performance of the company.

Table 4 Regression results

	ΔROA	Payment(logit)	Payment(probit)	ΔROA
<i>Fc</i>	0.3850** (1.99)	0.3300 ** (1.97)	0.1820 ** (1.74)	0.3750 * (1.70)
<i>Payment</i>				0.432 ** (1.89)
<i>Lev</i>	2.0674 ** (2.5)	-0.2856 (-0.37)	-0.1802 (-0.31)	2.0768 ** (2.58)
<i>CFO</i>	-0.0444 (-0.78)	-2.0089 (-0.91)	-1.6958 (-0.81)	-0.0478 (-0.84)
<i>Tq</i>	-0.018 ** (-2.18)	-0.0770 * (-1.72)	-0.0527 * (-1.64)	-0.019 ** (-2.29)
<i>Soe</i>	0.0238 (0.62)	-0.4108 (-0.79)	-0.3511 (-0.63)	0.0229 (0.56)
<i>Rs</i>	0.0115*** (4.56)	0.3163** (1.98)	0.2712** (1.43)	0.0122*** (4.66)
<i>Top</i>		0.0073 (0.5)	0.0057 (0.32)	
<i>_cons</i>	-0.1062 *** (-3.61)	-1.7229 (-0.55)	-1.0481 (-0.46)	-0.1041 *** (-3.53)
<i>obs</i>	211	211	211	211
<i>R-squared</i>	0.1758	0.0974	0.0966	0.2071

Note: t statistics in parentheses; * $p < 0.10$, * * $p < 0.05$, * * * $p < 0.01$.

Table 4 gives the test results of Hypothesis 2, Logit regression and Probit regression. The FC coefficient is significantly positive at the 5% level, indicating that the company is more likely to adopt the share-based payment method as the degree of financing constraints increases. In the control variables, the relative transaction size and payment method are significantly positively correlated at the 5% level, indicating that the larger the relative transaction size, the higher the transaction cost of M&A. The more cautious the M&A activity of the merger, the higher the M&A performance of the company. Therefore, hypothesis 2 is established.

Table 4 gives the regression results of Model 3. The payment method is significantly positively correlated with the M&A performance, indicating that the stock payment method is conducive to improving the M&A performance. The use of stock payment methods by cultural enterprises can reduce the financial risks of enterprises, improve the company's original shareholding structure, and enhance the confidence of future operations. Based on the above analysis, it is assumed that 3a is established. In the regression results of models (1) and (3), the impact coefficient of financing constraints on M&A performance decreased from 0.385 to 0.375, and the value of t decreased from 1.99 to 1.70, indicating that the payment method is generated between financing constraints and M&A performance. Therefore, the assumption 3b is established.

5. Robustness Test

In order to further test the reliability of the empirical results, refer to Wang Yan et al. (2014)¹³, and choose the ratio of the main parallel EBIT to the total assets as a surrogate variable for M&A performance. Δ EBIT calculation method draws on Δ ROA, that is, the difference between the average of the EBIT/Asset for the two years after the M&A event and the average of the EBIT/Asset for the two years prior to the merger. The explanatory variables, the explanatory variables and the control variables test results are basically consistent with the previous empirical results, which proves the reliability of the empirical results.

6. Conclusion

When companies face financing constraints, corporate executives will pass on good information that their decision-making strategies are suitable for their own development when they encounter merger and acquisition opportunities, thereby benefiting their profits and promoting merger and acquisition performance. Under the constraints of financing, cultural companies choose to pay in cash, which means higher financing costs. Therefore, these companies are more willing to choose stock payment methods. There are some mediating effects in the relationship between financing constraints and M&A performance.

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