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Analysis on the Factors of Financial Performance of the Transmission &Culture Companies

Jinghan Zhen*

Economy Administration College, China Agricultural University, Beijing, China
*Corresponding author: hou680622@163.com

Abstract On the basis of the public companies in China between 2009-2015, this thesis intends to research on the factors of financial performance of the transmission &culture companies by means of regression analysis method and thus empirically analyses the influence of the inside-outside factors to the companies' financial performance. We have the following discoveries: state-owned companies have negative relevance to their financial performance; the category of the cities in which the companies are located have negative relevance to the companies' financial performance; the companies' administration level is the biggest factor among the inside factors of the companies and influences the most to the companies' net-profit increase; the total assets (TTA) has positive relevance to the companies' financial performance; debt to assets ratio(DAR) has negative relevance to the companies' financial performance.

Keywords: *financial performance, capital scale, regression analysis method, relevance*

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1. Introduction

Under the background of cultural globalization and every country's paying much attention to the development of the cultural industry, China's mainland culture and transmission industry experiences the progress of setting up, developing and becoming prosperous. As the "sun-rise industry", its enterprises involve fields like news and magazine publication, books publication, advertisement propaganda, sponsorship of cultural exhibitions, designing of TV-film plays and TV programs, and the development of new media exploration and application, therefore it greatly influences people's spiritual and cultural lives and has become an important part of the country's national economy body. The public companies are usually the important companies in its industry and to a great degree their performances decide the standard of our national cultural industry. It has great practical significance to research the factors of the public companies' financial performance of China's concerned companies in a scientific and systematic way. It will benefit the management and development of such companies and provide references for their further development.

2. Related Researches

Banerjee, Heshrnati and Wihlborg (2004) [1] make contrast analysis of 426 American and 122 British public companies between 1989 and 1996. The result shows that the former's tangible asset ratio and grow-up opportunity have positive relevance to the best capital structure, and the companies' scale has negative relevance to the best capital structure; the latter companies' scale has positive relevance to the best capital structure, and the tangible asset ratio and profitability have negative relevance to the best capital structure; the relevance between non-debt tax shields and asset specificity with the best asset structure of the two countries' companies is not clear. Frank and Goyal (2009) [2] review the importance of various factors in the capital structure decision of the American public companies between 1950 and 2003 and explain the relationship between capital structure and the most reliable influential factors: the best asset structure has positive relation with the mean industry leverage, tangible assets and capital scale while it has negative relation with the market value, book value, capital ratio and profit.

As the mainland China set up the capital market at a later time, the research on the capital market problems begins at a later time. Related researches: Tong Jianyuan (2014) [3], using the 58 agricultural market companies as samples, research those companies' financial quality by using factor analysis method and get the conclusion that the companies, which score high in profit ability, management ability, development ability and debt-paying-off ability, have better financial qualities than those companies that score low. Zhang Junbo, Zhou Weitao and Li Yidong (2014) [4] list the financial competitive ability of 30 public estate companies and get the conclusion that the cash flow and management ability are the good basis for those companies' competitive ability.

Pan Xiuli (2014) [5], on the analysis of differences of business bank loan's loss preparation level and influential factors' inspection, finds the clear relevance between bad bank loan level, attach collateral loans level, profit level and loan loss preparation level, and the clear relevance between loan increase rate, running efficiency, capital

level difference and loan loss preparation level. Cao Yifei, Liu Sha (2011) [6], on the comprehensive research analysis, find the financial structure traits and capital structure traits of China's media public companies and try to involve those companies' existing problems. Zhang Zhengang, Song Jiashun(2010) [7] make comprehensive analysis to the sample financial indexes of 15 media & culture companies and find that only a few companies perform well while most companies have poor performances. Zhu Hongquan, Zhang Lingxue and Wang Na (2014) [8] explore the performance differences and influential factors of business banks, focus mainly on the traits of the companies' being state-owned or not state-owned, public or not public companies, and the influence of the companies' local financial market level to the companies' performances.

The present research mainly adopts the method of comprehensive analysis and factor analysis to research the public companies' financial quality and capital structure, which lacks the analysis of their financial performances and inside-outside factors' influence. For this reason, this thesis , on the basis of the above research, in view of the traits of China's media & culture companies, intends to research the outside factors' influence to the financial performances of such companies by using the regression analysis method.

The structure of this thesis: I. Introduction, II. Related Researches, III. Design of Research, IV. Empirical Results and Analysis, V. Conclusion and Revelation.

3. Research Design

A. Financial quality Formation Design and Evaluation Index Design

The financial performance of the transmission & cultural companies is mainly shown in their profit capacity, running capacity and risk-resistant capacity. Such companies can become bigger and stronger only when their profit ability is maximized, their running ability is more efficient and their risk-resistant ability is stronger. Naturally a company's final aim is gaining profit. The main indexes of a public company's financial performance include its net profit growth rate(abbrev, NPG), rate of return on common shareholders' equity(abbrev, ROE), return rate on total assets (abbrev, ROA) and net assets per share(abbrev, NAS). These indexes are the important indexes to evaluate a company's performance: NPG and ROE reflect the company's profit ability; ROA reflects its running ability of the total assets and NAS reflects its risk-resistant ability. Therefore, this thesis carries the analysis mainly on the company's NPG, ROE, ROA and NAS.

The financial performance of a transmission & culture company is decided by its management level and development strategy, it is also related to market's development degree and government's guiding ideology. Based on such public companies' present development, we research such companies' state-owned trait to the influence of their financial performance, at the same time we should consider the influence of the located cities' category(abbrev, CAT) to their financial performance, and we should think of the companies' inside factors such as their scale, debt to assets ratio(abbrev, DAR) and management level. So this thesis uses total assets (abbrev, TTA), assets liability ratio(abbrev, ALR) and total assets turnover rate(abbrev, TAT) as three measurements. The followings are the names and explanations of the variables (Table 1).

Table 1. evaluation indexes

	evaluation indexes(abbrev.)	definition	formula
Dependent variable	ROE	Y_1	net profit/net asset×100%
	ROA	Y_2	(total profit + interest expenditure)÷total means asset×100%
	NPG	Y_3	(this year net profit-last year net profit) ÷ this year net profit ×100%
	NAS	Y_4	Shareholders' equity ÷total share
Independent variable	NAT	X_1	State-owned=1, non-state-owned=0
	CAT	X_2	Location of the companies
Controllable variable	TTA	X_3	Natural logarithm of total asset at the end of 2013
	ALR	X_4	Total debt ÷ total asset×100%
	TAT	X_5	total asset increase of this year÷total asset at the beginning of the year×100%

B. Sample selection and sources of data

Up to the end of 2008, according to the industry classification of stock.sohu.com, there are 36 transmission & culture public companies in Shanghai and Shenzhen. Ten companies such as Tianzhou Culture, Perfect Globe, Southchina Biology and Oriental Fortune , are not included due to their abnormal data or lack of data. So this thesis selects 26 such companies as samples. The relevant data comes from www. cninfo.com.cn: China securities regulatory commission designated disclosure website, and sort out by writer of this thesis.

The sample independent variables are: 14 state-owned companies, 12 non-state-owned companies, and they are divided by their location cities' economic and cultural atmosphere. Companies in Beijing, Shanghai, Guangzhou and Shenzhen are classified as category 1; Shenyang, Wuhan, Nanjing, Hangzhou and Chengdu as category 2; Zhengzhou, Changsha and Nanchang, category 3; Datong and Haikou, category 4. So among the relevant companies, category 1 includes 10, category 2, 8; category 3, 6; category 4, 2.

C. Evaluation method

This thesis adopts the method of variable descriptive statistic analysis and construct pluralistic regression method, which differs from most scholars' factor analysis method. The writer constructs the regression model to study the influence of inside-outside factors to the company's financial performance. The spss 19.0 statistic analysis software is used in the analysis process. The multiple linear regression model is:

$$y_i = \beta_0 + \sum_{i=1}^{5} \beta_i X_i + \varepsilon_i \quad (1)$$

β_0 is constant, β_i is coefficient, y_i shows the first dependent variable, X_i shows the first independent variable, and i=1,2,3,4.

To rid the influence of variable dimension, the analysis data is standardized. The standardizing formula is:

$$z_i = \frac{x_i - \overline{x}}{s}$$

x_i is the ith observed value of variable X, $\overline{x}$ is the average of variable X, s is the standard deviation.

To further limit the volatility of the data, differential treatment is used.

The regression formula is set up on differential treatment result

$$\Delta y_i = \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 Z_i + \varepsilon_i \quad (2)$$

Δy_i respectively shows the differential of ROE, ROA, NPG and NAS. X_i respectively shows the differential value of TTA, ALR and TAT. Z_i shows the virtual variables of company's trait and category.

4. Empirical Result and Analysis

(a) Descriptive statistics and analysis

Table 2 shows the basic statistical traits between the company's financial performance and control variables.

Table 2. basic statistic traits of financial performance & control variables

		ROE	ROA	NPG	NAS	TTA	TDR	TTC
W	Means	11.17	9.33	101	5.03	12.69	37.18	198.3
	standard deviation	8.68	6.93	99.6	3.18	1.02	6.97	19.8
C	Means	11.51	10.63	191.77	4.70	12.24	28.99	60.98
	standard deviation	10.97	7.86	136.50	2.99	0.95	16.41	13.20
N	Means	10.80	7.90	0.15	5.40	13.19	57.64	74.6
	standard deviation	5.11	5.42	14.41	3.36	0.87	25.36	47.90
Ca 1	Means	11.28	7.40	17.81	4.14	12.08	28.55	5.51
	standard deviation	7.06	4.30	41.66	1.82	1.01	14.50	3.07
Ca 2	Means	7.70	4.53	-6.63	3.68	12.45	45.31	4.58
	standard deviation	15.20	5.57	63.59	2.27	1.34	20.41	1.54
Ca 3	Means	10.96	6.89	13.64	5.78	13.27	35.86	6.26
	standard deviation	3.99	3.19	44.14	2.10	0.77	13.61	2.63
Ca 4	Means	11.40	8.29	31.61	3.46	11.32	37.85	4.82
	standard deviation	10.02	5.31	97.96	2.17	1.69	29.83	2.17

Note: W=whole sample, C=non-state-owned, N=state-owned, Ca=category.

From Table 2 we know: among the indexes of the 36 companies, the state-owned companies are lower than non-state-owned companies in NPG, ROE and ROA, and they are higher than non-state-owned companies in average NAS, TTA, DAR and TAT. Judging from cities' economic and cultural atmosphere, companies in category 2 areas are clearly lower than those in other three areas in NPG, ROE, ROA and average NAS; the means of TTA and TAT is similar among companies of different categories; and DAR in category 2 is clearly higher than those in other three areas.

The means of net assets benefit is 11.17%, the median is 9.45%, and there is certain difference among companies. Companies of different nature in different areas have similar benefit means of 10%, which shows that the companies have basically reasonable asset return. The non-state-owned companies are higher in net asset means benefit. The higher standard deviation shows they are more efficient in running free assets, and it also shows that when running free assets, there are bigger differences and higher risks among companies. The net asset benefit means in category 2 areas is clearly lower than that of other areas and has bigger volatility, and the other three areas are almost the same. The means of ROA is 9.33%, and there is certain difference among companies(the standard deviation is 6.93%). The means of non-state-owned companies and category 4 areas is higher, which shows these companies have more capability to profit through utilizing the asset. The means of net profit increase is 101, and the difference among companies is bigger(standard deviation:99.6); this is more clear in category 4 areas, but there is also bigger differences among companies. The average NAS is 5.03, with smaller difference among companies (the standard deviation is 3.18) and biggest means among state-owned companies, which shows the state-owned companies have stronger ability to resist the outside factors. The means of total asset increase is 12.69, and there are less differences among companies(the standard deviation is 1.02), while the non-state-owned companies and category 1 areas have bigger means. The means of DAR is 37.18, with differences among companies(the standard deviation is 6.97), and state-owned companies and category 2 areas have bigger means. The means of TAT is 198.3, with differences among companies(the standard deviation is 19.8), and category 3 areas have bigger TAT, which shows category 3 areas have higher capital turnover rate and better sale capacities.

(b) Empirical result and analysis

1. The influence of outside singular factor to financial performance

In singular factor regression, the result is seen at Table 3.

Table 3. Analysis of company trait to its financial performance

	constant	NAT	TTA	ALR	TAT
ROE	1.938*	-0.935*	-4.014	-2.315	0.19*
	(1.266)	(-1.239)	(-3.734)	(3.444)	(1.114)
ROA	0.016	-0.7	0.4**	-0.06	0.04*
	(0.691)	(-0.62)	(-2.476)	(-0.273)	(1.390)
NPG	-0.132	-0.61	0.036	0.345*	0.095*
	(0.164)	(0.155)	(0.063)	(0.988)	(1.065)
NAS	-0.227	-1.129*	2.187***	-0.338*	0.474***
	(-0.273)	(-1.754)	3.738	(-0.923)	(5.166)

Note: the data in the table is regression ratio, the number in the bracket is t value. *, **, *** show the clear level when p= 0.1, 0.05, 0.01.The following tables share the same note.

The trait of the company has clear influence, and the regression rate is -0.935, which shows: when other variables remain the same, the rate of the company's state-owned trait to ROE's negative influence is 0.935. The company's trait has negative relevance to NAS, which shows that the non-state-owned companies can better resist risks. TTA has clear influence to ROE, ROA and NPG and has negative relevance to them, which shows that the bigger the TTA, the lower the profit capacity and running capacity. TTA has clear positive relevance to NAS, this shows that the bigger the TTA, the better risk-resistance capacity the company has. DAR has negative relevance to ROE, ROA and NPG, but that is not clear and has no statistical significance. DAR has clear negative relevance, meaning that debt can clearly influence the companies' risk-resistant capacity.

The regression result of the influence of company category to its financial performance, see Table 4. The company category has no clear relevance to NPG and NAS but has clear negative relevance to ROE and ROA, this shows that the smaller the category, the better profiting and running capacity the company has. TTA has clear positive relevance to ROE, ROA and NPG but clear negative relevance to NAS, showing that in areas of the same category, when asset scale increases, the company will have better profiting and running capacity. DAR has clear negative relevance to ROA and NAS, which shows that in areas of the same category, the more debt the company has , the worse the company's profiting and running capacity will be. TAT has clear positive relevance to ROE, ROA and NAS, showing that the higher the assets turnover, the better profiting, risk-resisting and running capacity the company will have among companies of the same category. That shows that management is still the central competitive capacity of a company.

Table 4. Analysis of company category to financial performance

	constant	CAT	TTA	ALR	TAT
ROE	0.165	-0.983*	-6.150***	5.515	1.569*
	(0.053)	(-1.27)	(-3.888)	(-0.559)	(1.714)
ROA	0.02	-0.83*	0.45**	-0.24*	0.11*
	(0.104)	(-1.231)	(-4.378)	(-0.78)	(1.797)
NPG	-0.263	0.151	-2.478*	19.28*	-0.397
	(-0.05)	(0.04)	(0.877)	(1.09)	(-0.242)
NAS	-0.260	0.206	1.285***	-13.385***	0.839***
	(-0.321)	(0.397)	3.129	(-5.226)	(3.529)

2. Two outside factors' influence to financial performance

In the analysis of the two outside variables, company trait and category partly pass the clear relevance test to ROE, ROA, NPG and NAS, but the inside factor variables such as TTA, TDA and TTC show stronger relevance to company's financial performance and pass the clear relevance test (see Table 5). If the company remain the same trait and category, TTA has clear negative relevance to ROE, ROA and NPG but has clear positive relevance to NAS, this shows that if the company enlarges its scale, its profiting and running capacity will be hindered but its risk-resistant capacity will be raised; DAR has clear negative relevance to ROE, ROA, NPG and NAS, showing that with the rise of DAR, the company will lower its profiting, running and risk-resistant capacity; TAT has clear positive relevance to ROE, ROA and NAS, showing that with the rise of TAT, the company will have better profiting, running and risk-resistant capacity.

Table 5. Analysis of company's category & trait to its financial performance

	constant	NAT	CAT	TTA	ALR	TAT
Δ ROE	0.368	-0.929*	-0.461*	-4.014***	-2.315***	0.19*
	(0.202)	(-1.40)	(-1.43)	(-0.94)	(-3.44)	(1.114)
ROA	0.03	0.07	0.05	-0.42***	-0.2	0.05***
	(0.23)	(0.794)	(0.87)	(-5.25)	(-0.27)	(2.115)
NPG	-0.13	-0.11	0.65*	-1.55*	-0.717*	0.01
	(-0.05)	(-0.04)	(0.36)	(1.627)	(-1.45)	(0.02)
NAS	-0.32	-0.103	0.527	0.991**	-0.97**	0.47***
	(-0.51)	-0.189	(1.117)	(2.850)	(-2.92)	(4.671)

3. Empirical test analysis

Nowadays China's marketing degree is becoming deeper and deeper and the government's interference is becoming less. A company realizes its development through market competition and culture & Transmission company carries on its job via media. In the era of "internet+", the location of the company doesn't seem to be the main factor of influencing the company's development. Omitting the company's category and trait and repeat the above regression analysis, we get Table 6.

Table 6. Analysis of inside factors to financial performance

	constant	TTA	ALR	TAT
ROE	0	-0.461***	-0.254***	0.118*
	0	(-5.198)	(-2.606)	(1.349)
ROA	0	0.087***	0.026	0.177***
	0	(-5.294)	(0.790)	(2.045)
NPG	1.039	0.356	0.271	0.130
	1.181	(0.358)	(0.249)	(0.133)
NAS	0	-0.832***	-0.932***	1.351***
	0	(2.878)	(-2.936)	(4.724)

Table 6 shows that all but NPG passes the clear relevance test, the reason of which is probably this: in the calculation of NPG, the net profit of the shareholders is used and thus there will be difference of company profit's share and allocation among different city categories, and differences of company's trait may cause difference in profit allocation. TTA has clear negative relevance to ROE, ROA and NAS, which is in accordance with the above analysis conclusion. TAT has clear positive relevance to ROE, ROA and NAS. If the company's other variables remain the same, each addition of TAT's unit will cause ROE, ROA and NAS to raise respectively 0.118%, 0.177% and 1.351, and this conclusion is the same with the above analysis. DAR has clear negative relevance to ROE and NAS, and high debt rate will lower the company's profit and risk-resistant capacity.

5. Conclusion and Revelation

By citing the samples of 26 transmission & culture public companies between 2009 and 2015, this thesis explores the influential factors to these companies' financial performance; focuses on studying the outside (state-owned trait and location city of the company) factors' influence to financial performance by adopting the descriptive statistical method and regression analysis method; and the inside factors' (TTA, DAR, TAT and management level) influence to financial performance.

The discoveries: among outside factors, the companies' state-owned trait has clear negative relevance to their financial performance (ROE, ROA, NPG, NAS), the category of location city has clear negative relevance to their financial performance (ROE, ROA): with the rise of the city's category, its influence to financial performance(ROE, ROA) becomes smaller; among inside factors, TAT has positive relevance to financial performance(ROE, ROA, NAS) and has the most influence; TTA has negative relevance to financial performance; DAR has negative relevance to financial performance. ALR has clear negative relevance to ROE and NAS.

Revelation: whether the company is state-owned or not is not decided by the company itself, but the company can realize managing it well and raising its benefits. On the one hand, the company's development needs the company to improve its management level. On the other hand, we should focus on the propaganda of cultural products, increase the intensity of marketing and raise the TAT so as to improve financial performance.

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