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Tax Preference, Capital Investment and the Performance of Cultural and Creative Listed Companies

—A Mediating Effect Model and Its Implications

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***Abstract*—Based on the panel data of 137 A-share listed cultural creative companies in Shanghai and Shenzhen during 2012-2015,the author uses the mediation effect-analysis methods empirically studies the relationship between tax preference, capital investment(including R&D investment, human capital) and the performance of cultural creative enterprise. The results show that: on the one hand, tax preference has a positive effect on performance; on the other hand, R&D investment and human capital have a significant positive mediating effect on the relationship between tax preference and the performance of cultural creative companies, tax preference indirectly enhance the performance of the companies through these two inputs.**

Keywords—Tax preference; Capital investment; The performance of cultural and creative listed company; Mediating effect model

I. INTRODUCTION

In 2014, the state council continuously issued some opinions on promoting the integration and development of cultural creativity and design services and related industries and Opinions on accelerating the development of foreign cultural trade two files. Then, our country culture creative industry rapidly development, according to the national bureau of statistics data show that in the first half of 2017, the national culture and related enterprises above designated size to achieve the business income is 4.3874 trillion yuan, the cultural creativity and design service enterprise revenue of 517.1 billion yuan, maintain rapid growth.

Based on the above background and trend, the state has also increased support for cultural and creative industries, a series of preferential tax policies were introduced, including the exemption of enterprise income tax, and some key encouragement of cultural products to realize the zero tax rate. However, the effect of tax preference on the growth of company performance remains to be studied. So what is the actual effect of tax preference for cultural and creative companies, Whether the performance of cultural and creative listed companies is related to capital investment, how to better use the preferential tax policy to improve company performance, is the focus of this paper.

II. LITERATURE REVIEW AND THEORETICAL HYPOTHESIS

A. Tax preference and the performance of cultural and creative listed companies

With the development of cultural and creative industry in the world, all governments have introduced corresponding tax preference. Whether the government's tax preference policy improve the performance of cultural creative companies, it has aroused wide concern and discussion among scholars at home and abroad. One view is that tax preference have a positive effect on the improvement of company performance, Wei Yaping and Chen Yanfei [1] based on the research and development cycle, emphasized during the development phase, the preferential tax policy and the enterprise new product sales income have positive correlation effect, many other scholar's study also confirmed this view. And another is that tax preference and company performance is not positive correlation, sometimes even lower tax preference, Zheng Chunmei and Li Pei[2] by comparing tax breaks and government subsidies this two kinds of policy tools, put forward the preferential tax not only failed to increase performance, sometimes also can have a negative effect on it.

In view of this, given that tax preference can indeed improve corporate performance from multiple channels, the following assumptions are made:

H1: Tax preference is positively correlated with the performance of cultural and creative listed companies.

B. The mechanism of the effect of tax preference on the performance of cultural creative listed companies

1) Tax preference, r&d investment and company performance

On the one hand, Czarnitzki [3] found that tax preference can have a positive effect on the r&d input of enterprises; Shui Huili and Han qinglan [4] use the data of listed companies in China's manufacturing industry,the results show that tax policy is positively correlated with enterprise's r&d investment, and the benefits of income tax are more significant than the VAT. Therefore, the following hypothesis is proposed:

H2: Tax preference is positively correlated with the r&d investment of cultural and creative listed companies.

On the other hand, r&d investment can also promote the improvement of company performance. Falk [5] studied the research and development activities of Austrian enterprises based on LAD criteria, and suggested that the research and development intensity had a positive impact on the employment rate and sales growth of the second phase of the company; Zhang [6] also confirmed the mediating role of technological innovation (r&d investment) in corporate governance and corporate performance.Based on the above analysis, the hypothesis is proposed:

H3:R&D investment is positively correlated with the performance of cultural and creative listed companies

H4:R&D investment plays an intermediary role between tax preference and the performance of cultural and creative listed companies,tax preference promote performance by stimulating r&d investment.

2) Tax preference, human capital and company performance

Human capital is an important guarantee for enterprise's technological innovation and development ability. Sun wenxue [7] thinks that our country should reduce the cost of enterprises in human capital through tax preference and tax breaks, so as to stimulate human investment; Carmeli[8] studied Israeli private companies and public sector human capital and found that human capital contributed to both performance; The Youndt [8] study found that companies with high human capital had high performance. With the advent of the era of knowledge economy, human capital, as an important internal resource of enterprises, is an important driving force for enterprise development, and human capital is an important source of enterprise development. Based on this, the following hypotheses are proposed:

H5: Tax preference are positively correlated with the human capital of cultural and creative listed companies

H6: Human capital is positively correlated with the performance of cultural and creative listed companies

H7: Human capital plays an intermediary role between tax preference and the performance of cultural and creative listed companies,tax preference promote performance by encouraging human capital.

III. METHOD

A. Sample selection and data source

This paper mainly adopts the panel data of non-financial and non-st class cultural and creative listed companies in Shanghai and Shenzhen a-share market from 2012 to 2015 for empirical research.According to the classification table of cultural and creative industries, the balance panel data of 137 cultural and creative listed companies were finally selected according to the industry classification standards in 2012.

The original data of the study was from Wind database and the annual report of listed companies, and some data were obtained by manual calculation.

B. Variable selection

1) The dependent variable

"Main business income" can highlight the effect of tax preference on performance, so it is the variable of this article.

2) The independent variables

Because most of the tax preference for cultural and creative industries are about income tax benefits,therefore, this article only considers the income tax preference,use “the difference between nominal and real tax rates multiply total profit” to express.

3) Mediating variable

When considering the influence of the independent variable X on the dependent variable Y, if X affects Y by influencing the variable M, called M as the mediation variable.In the research of this paper, capital investment is used as the intermediary variable, including r&d investment and human capital.The research and development costs "total r&d expenditure", and human capital is measured by "the number of employees with bachelor's degree or above education".

4) Control variable

As the governance structure, industry nature and ownership type affect the relationship between tax preference and company performance, these factors are used as control variables. The specific definitions of each variable are shown in table 1.

TABLE I DEFINITION OF VARIABLES

	Variable symbol	Variable name	Variable declaration
The dependent variable	Per	performance	Use "main business income" to express
The independent variable	Tax	Tax preference	Use the difference between nominal and real tax rates multiply total profit to express.
Mediating variable	R&D	R&D investment	Capital investment,total r&d expenses
	Hum	Human capital	Capital investment,the number of employees with bachelor's degree or above education
Control variable	Cas	Capital	Whether the annual capital is changed.
	Ind	Industry	Nature of the industry
	Own	Ownership	Type of ownership

C. Model design

(1)In order to examine the promotion effect of tax preference on the performance of cultural creative listed companies, designed the following regression model.

$$Per_{i,t} = \alpha_0 + \beta_1 Tax_{i,t} + \lambda_1 Cas_{i,t} + \lambda_2 Ind_{i,t} + \lambda_3 Own_{i,t} + \varepsilon_{i,t} \quad (1)$$

(2)The test model of the mechanism of corporate performance.

a) Tax preference, r&d investment and company performance model

$$R\&D_{i,t} = \alpha_0 + \beta_2 Tax_{i,t} + \lambda_1 Cas_{i,t} + \lambda_2 Ind_{i,t} + \lambda_3 Own_{i,t} + \varepsilon_{i,t} \quad (2)$$

$$Per_{i,t} = \alpha_0 + \beta_3 R\&D_{i,t} + \lambda_1 Cas_{i,t} + \lambda_2 Ind_{i,t} + \lambda_3 Own_{i,t} + \varepsilon_{i,t} \quad (3)$$

$$Per_{i,t} = \alpha_0 + \beta_1' Tax_{i,t} + \beta_3 R\&D_{i,t} + \lambda_1 Cas_{i,t} + \lambda_2 Ind_{i,t} + \lambda_3 Own_{i,t} + \varepsilon_{i,t} \quad (4)$$

$$^{Ln}Hum_{i,t} = \alpha_0 + \beta_2 {}^{Ln}Tax_{i,t} + \lambda_1 Cas_{i,t} + \lambda_2 Ind_{i,t} + \lambda_3 Own_{i,t} + \varepsilon_{i,t} \quad (5)$$

b) Tax preference, human capital and company performance model

$$Lnper_{i,t} = \alpha_0 + \beta_3 LnHum_{i,t} + \lambda_1 Cas_{i,t} + \lambda_2 Ind_{i,t} + \lambda_3 Own_{i,t} + \varepsilon_{i,t} \quad (6)$$

$$^{Ln}Per_{i,t} = \alpha_0 + \beta_1' {}^{Ln}Tax_{i,t} + \beta_3 {}^{Ln}Hum_{i,t} + \lambda_1 Cas_{i,t} + \lambda_2 Ind_{i,t} + \lambda_3 Own_{i,t} + \lambda_4 Sca_{i,t} + \varepsilon_{i,t} \quad (7)$$

In the model, in order to guarantee the data smoothly, reduce volatility, eliminate heteroscedasticity, therefore, the logarithm of the main variables of model (5) (6) (7) is taken. In this paper, the mediation effect test is used to evaluate the impact

In the model, in order to guarantee the data smoothly, reduce volatility, eliminate heteroscedasticity, therefore, the logarithm of the main variables of model (5) (6) (7) is taken.In this paper, the mediation effect test is used to evaluate the impact of tax preference on the performance of cultural and creative listed companies,Whether capital input (including r&d investment and human capital) plays an intermediary role.In this paper, According to the test procedure of mediation effect model proposed by Wen Zhonglin,zhang lei [9],it reduces the probability of a second type of error and applies to situations where there are multiple mediation variables. The mediation test step is shown in figure 1.

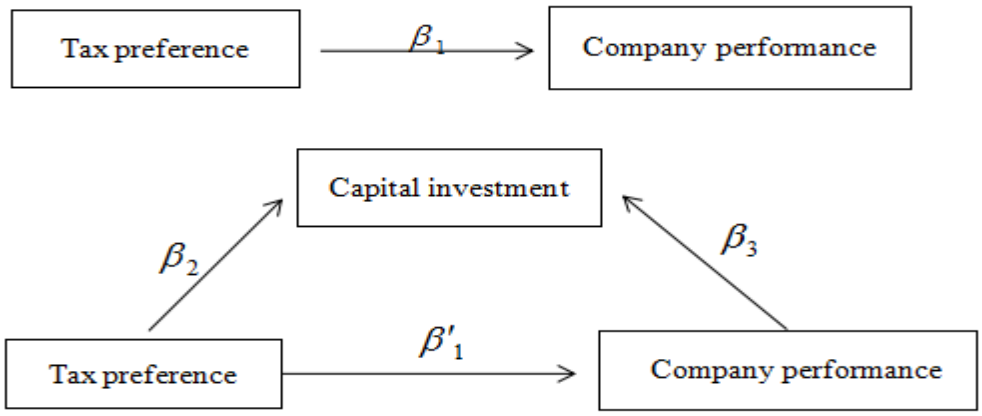

Fig. 1 The mediation effect inspection step

IV. EMPIRICAL ANALYSIS

Considering the fixed model of goodness of fit is not high, the multicollinearity is seen, so this article USES the random effects model for each model to carry on the empirical analysis, through multiple regression and the mediation effect test to verify the hypothesis in this paper.

A. The positive effect of tax preference on the performance of cultural creative listed companies

In order to verify the positive effect of tax preference on corporate performance, the model (1) is returned and the test results are shown in table 2.

TABLE II BASIC ESTIMATE OF TAX PREFERENCE AND COMPANY PERFORMANCE

variable	The dependent variable : Per			
Tax	15.0520***	15.0427***	14.9360***	12.1520***
	(4.62)	(4.62)	(4.61)	(3.79)
Cas		9.26e+07	1.16e+08	1.39e+08
		(0.47)	(0.59)	(0.71)
Ind			2.48e+07**	1.77e+07
			(2.15)	(1.60)
Own				-8.22e+08***
				(-4.69)
Constant	1.25e+09***	1.08e+09***	-6.08e+08	1.57e+09
	(7.23)	(2.74)	(-0.69)	(1.63)
Model		RE		
Wald	21.37	21.71	26.80	52.18
R2	0.1014	0.0987	0.1208	0.1972

Note: the number in ( ) is z value;***, ** and * represent significant levels of 1%, 5% and 10% respectively. The same below.

The test results show that the coefficient of tax preference of main independent variable is positive, and it is significant with the company's performance at 1%. This shows that there is a significant positive correlation between tax preference and the performance of cultural and creative listed companies, which verifies hypothesis 1.

B. The test model of the mechanism of company performance

Capital investment is a cultural creativity performance of listed companies to improve intermediary variables, including r&d and human capital, according to the steps in this article, the various intermediary variable step by step analysis of regression model, the results shown in table 3,table 4.

TABLE III THE RESULTS OF MEDIATING EFFECT OF R&D INVESTMENT

variable	StepI The dependent variable	StepII The dependent variable		StepIII The dependent variable
	Per	R&D	Per	Per
Tax	12.1520***	0.9687***		5.6204*
	(3.79)	(5.11)		(1.76)
R&D	1.39e+08		6.7403***	6.4150***
	(0.71)		(9.37)	(8.75)
Cas	1.77e+07	1.08e+07	-4.34e+07	-5.57e+07
	(1.60)	(1.03)	(-0.23)	(-0.29)
Ind	-8.22e+08***	-397864.5	2.20e+07*	2.18e+07*
	(-4.69)	(-0.51)	(1.93)	(1.94)
Own	1.57e+09	-1.98e+07	-8.06e+08***	-7.51e+08***
	(1.63)	(-1.42)	(-4.44)	(-4.14)
Constant	1.57e+09	1.28e+08*	1.20e+09	1.03e+09
	(1.63)	(1.90)	(1.22)	(1.05)
Model	RE			
Wald	52.18	32.93	125.27	129.71
R2	0.1972	0.0904	0.2697	0.2904

In table 3 Step I proves the hypothesis 1,In the Step II, ordinally regress model (2), model (3),found that tax preference have a positive effect on r&d investment,at the same time,r&d investment is positively correlated with company performance at the significance level of 1%, β_2 ,

β_3 is significant,this improve that the positive effect of tax preference on company performance is at least through r&d investment.Thus, hypothesis 2 and hypothesis 3 are verified.In step III,regress model(4), after joining r&d investment this mediation variable in model,The coefficient of tax preference and (β_1' =5.6204) the coefficient of r&d input (β_3 =6.4150) are both positively correlated,and the former is less than the latter,the positive effect of tax preference on company performance is partly realized through r&d,the r&d investment plays a mediation role,and hypothesis 4 is further verified.

TABLE IV THE RESULTS OF MEDIATING EFFECT OF HUMAN CAPITAL

variable	StepI The dependent variable	StepII The dependent variable		StepIII The dependent variable
	LnPer	LnHum	LnPer	LnPer
LnTax	12.1520***	0.2949***		0.2206***
	(3.79)	(9.11)		(8.33)
LnHum	1.39e+08		0.4519***	0.4008***
	(0.71)		(15.44)	(10.89)
Cas	1.77e+07	0.1310*	0.1203*	0.0579
	(1.60)	(1.75)	(1.76)	(1.02)
Ind	-8.22e+08***	0.0113	0.0060	-0.0050
	(-4.69)	(1.45)	(1.18)	(-1.01)
Own	1.57e+09	-0.1726*	-0.4781***	-0.3261***
	(1.63)	(-1.75)	(-6.53)	(-5.19)
Constant	1.57e+09	1.1561	17.9888***	15.1215***
	(1.63)	(1.46)	(39.47)	(27.73)
Model	RE			
Wald	52.18	103.61	341.79	418.08
R2	0.1972	0.3003	0.4927	0.6108

Regress model (5), model (6),found that tax preference has a positive effect on the improvement of human capital,Hypothesis 5, hypothesis 6 are verified. Step III regresses model (7), the coefficients β_1' , β_3 are both significantly positive,and β_1' (=0.2206)< β_3 (=0.4008),it shows that human capital plays a part role in mediating effect, the impact of tax preference on the performance of cultural and creative listed companies is partly realized through the intermediary variable human capital ,and hypothesis 7 is verified.

V. CONCLUSIONS AND SUGGESTIONS

This paper analyzes the panel data of 137 cultural and cultural creative companies from 2012 to 2015,discusses the mediating effect of capital investment, the relationship between tax preference and performance of cultural and creative listed companies,the seven hypotheses in this paper are verified,the specific results are as follows.

Firstly, the relationship between tax preference, capital investment and the performance of cultural and creative listed companies is basically confirmed. The results show that: (1) Tax preference have a positive effect on r&d investment and human capital;(2)R&D investment and human capital have positive effect on company performance.

Secondly, the mechanism of the effect of tax preference on the performance of cultural creative listed companies is complex, with direct and indirect effects. The first is the direct effect, which directly promotes the improvement of the performance of cultural and creative listed companies. The second is the indirect effect, capital investment plays an intermediary role, that is, tax preference improve performance by promoting capital input from cultural and creative companies.

This paper has the following inspirations for the development of cultural creative industry and the development of tax policy. First of all, tax policy, as an important means of national macro-control, plays an important role in the development direction of cultural and creative industries. In particular, the income tax is not only a direct promotion of corporate performance, but also an active role in capital investment, which plays an intermediary role in capital investment, thus improving corporate performance. Secondly, enterprises should strengthen its investment in research and development, set up tax preference and the long-term mechanism of promoting r&d investment, avoiding disruption of the r&d staff turnover and r&d activities, and constantly develop new technologies, enhance core competitiveness, so as to continuously improve performance. Thirdly, human capital is an important support for enterprise's innovation ability, which is an indispensable condition for the economic growth of enterprises. This paper also demonstrates the intermediary role of human capital. Therefore, enterprises should pay attention to the improvement of "quality" of human capital and the accumulation of "quantity". Finally, cultural and creative enterprises also need to establish a series of comprehensive systems of tax policies, including

government subsidies, personnel training, financial policies and strategic plans, so as to maintain the long-term vitality of enterprises.

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REFERENCES

[1] Wei yaping, Chen yanfei. Empirical research on r&d investment decision and r&d performance of cultural and creative enterprises -- based on the perspective of r&d cycle [J]. Scientific and technological progress and countermeasures, 2015(3):103-108.

[2] Zheng chun-mei, li pei. The impact of government subsidies and tax incentives on enterprise innovation performance -- an empirical study based on the high-tech enterprise of gem [J]. Scientific and technological progress and countermeasures, 2015(16):83-87.

[3] Czarnitzki D, Hanel P, Rosa J M. Evaluating the impact of R&D tax credits on innovation: A microeconometric study on Canadian firms [J]. Research Policy, 2011, 40(2):217-229.

[4] Shui Huili,Han Qinglan,Yang Jiehui.The government pressure, tax incentives and enterprise r&d investment [J]. Science research, 2015, 33(12):1828-1838.

[5] Falk M. Quantile estimates of the impact of R&D intensity on firm performance[J]. Small Business Economics, 2012, 39(1):19-37.

[6] Zhang Q, Chen L, Feng T. Mediation or Moderation? The Role of R&D Investment in the Relationship between Corporate Governance and Firm Performance: Empirical Evidence from the Chinese IT Industry [J]. Corporate Governance An International Review, 2014, 22(6).

[7] Sun Wenxue. Adjustment of tax policy orientation and promotion of human capital investment [J]. Journal of modern finance and economics - tianjin university of finance and economics, 2003, 23(11):3-7.

[8] Youndt M A, Subramaniam M, Snell S A. Intellectual Capital Profiles: An Examination of Investments and Returns *[J]. Journal of Management Studies, 2004, 41(2):335-361.

[9] Wen zhonglin, zhang lei, hou jietai, et al. The application of mediation effect inspection procedure and its application [J]. Journal of psychology, 2004, 36(5):614-620.