

An Empirical Study on the Internal Control and Equity Capital Cost of Listed Companies

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Abstract— In recent years, China's capital and securities market has been fluctuated under the globalization process and so on. Based on such realistic conditions, the state adopted the macro regulation and control mode and put forward the concept of "new normal economy". The appliance industry has been expanding rapidly in recent years. Giant companies are seeking overseas expansion, such as the US, GREE, Haier and other enterprises. Small and medium-sized enterprises seek to go public, expand their scale through capital operation and seize market share. In the new normal background, this paper selects the appliance industry listed companies as the main target and lists company's internal control quality as a starting point, focusing on how the internal control effect and reduce the cost of equity capital through the empirical analysis. The conclusion of this paper shows that the internal control is negatively related to the cost of equity capital, and the correlation is not significant. This provides new ideas for the management and production organization of enterprises, and puts forward relevant policy recommendations, aiming at finding the existing problems and prospecting future research trends.

Keywords— Household Appliance Industry, Internal Control, Equity Capital Cost.

I. INTRODUCTION

The concept of "new normal" is based on the fact that China's economic development is still in its infancy. China's economy has begun to restructure, turning from high-speed development to steady development, from the tax reform of "business-to-increase" to the supply-side reform of "three to one reduction and one subsidy" in the 13th Five-Year Plan. The purpose of this series of regulation and control measures is to promote growth by development, to replace pure GDP growth by comprehensive social development, and to use value mechanism as the core mechanism of the market. According to the macro-control situation of the "new normal", GDP growth began to decline in 2012, and GDP growth rate fell below 7% in 2017 and 2018, which is the fundamental transformation of the economic growth stage.

The 13th Five-Year Plan has made a series of achievements. Under the new normal economic development, we pursue steady progress and adopt a combination of sound fiscal policy and neutral monetary policy to conduct macro-control. Under the background of the explosive development of the Internet economy in China, this paper selects the household electrical appliances industry in the manufacturing industry for analysis. Because of the late start of the research on the internal control of enterprises in China, the lack of a systematic and comprehensive system and system construction, and because the internal control involves all aspects of the production and operation of enterprises, the listed companies enter the market. On the other hand, because of the imperfection of China's capital market, the proportion of equity financing costs is large, and the dividend issuance is unreasonable, these problems will be related to the realization of enterprise strategic objectives. The higher cost of equity capital affects the recycling of the capital chain and brings pressure on the financing of the enterprise.

The new normal economy puts forward new requirements to the household appliance industry. Firstly, this paper

expounds the related concepts of internal control and the cost of equity capital, briefly introduces the evolvement process of the concepts and the theoretical basis of the research; secondly, it studies and analyzes the current situation of the development of Listed Companies in the household appliance industry, the management situation and equity financing situation. Then, this paper carries on the relevant empirical design, puts forward the research hypothesis and variable settings, and builds the model according to the relevant indicators. Then, it uses the principal component analysis to get the internal control index, and uses multiple linear regression to carry on the empirical analysis. Finally, this paper uses the relevant empirical data to get the relationship between internal control defects and the cost of equity capital. On the one hand, scientific and effective internal control can not only prevent the distortion of financial information, ensure the quality of financial work, improve the management of enterprises, but also enhance market competitiveness; on the other hand, the study of the relationship between internal control and the cost of equity capital can make enterprises respond positively to national policies and regulations, and make the country. In the process of promoting internal control construction, resistance has been reduced. The government and enterprises jointly establish a transparent and effective capital market, which will play a positive role in promoting the stability and prosperity of China's capital market.

II. LITERATURE REVIEW

From the domestic and foreign research status of internal control and cost of equity capital, most scholars have carried out empirical analysis of the two variables with different methods, and the results mostly believe that there is a negative correlation between them. It mainly elaborates the relationship between internal control and the cost of equity capital from three aspects: information disclosure of internal control, internal control quality and internal control defects (Li Chao 2011).

Regarding the disclosure of internal control, the listed companies in Canada from 1990 to 1992 are selected as the sample. The results show that the quality and quantity of information disclosure in the annual report have a significant negative effect on the cost of equity capital, and the ratio of assets to liabilities has a significant positive effect on the cost of equity capital (Balakrishnan 2018). Wang Chunfei and Lu Zhengfei (2018) analyzed the relationship between information disclosure and cost of equity capital by taking all A-share listed companies in Shenzhen stock market as samples. The results show that after excluding other factors that affect cost of equity capital, information disclosure has a significant negative correlation with cost of equity capital.

With regard to the quality of internal control, Zhang Ran, Wang Huijuan and Xu Chao (2012) have found that disclosure of internal control reports leads to lower equity capital costs, while disclosure of internal control reports and auditor certification reports leads to lower equity capital costs. This study shows that there is a negative relationship between the quality of internal control and the cost of equity capital.

With regard to internal control defects, Fadzil (2005) found that the existence of internal control defects has a significant relationship with the scope of the company's business, whether a major change occurred in the case, and the amount of investment in internal control. Wang Bingjie (2017) thinks that there is a positive correlation between the defect of internal control and the cost of equity capital, that is, the cost of equity capital increases when the company has the defect of internal control. Luo Mengzhi (2018) found that the company's disclosure of its internal control flaws can increase investors' sense of security, reduce their risk expectations, and increase the company's equity financing costs. Therefore, there is a significant positive correlation between the disclosure of internal control deficiencies and the cost of equity capital.

At the present stage, the research on the relationship between internal control and the cost of equity capital mainly focuses on the relationship between the three aspects of internal control and the cost of equity capital. Empirical analysis is used to study the main methods of descriptive analysis, regression analysis and robustness test. From the whole course of our country's research, the hot spot of its research has been concentrated on the defects of internal control in recent years, but the research on the internal control of Listed Companies in household appliances industry has not been involved. This study will carry out corresponding research and Analysis on the basis of literature summary, starting with the defects of the internal control system, implementation process and management personnel of Listed Companies in household appliances industry, and referring to the internal control index, the corresponding empirical research will be carried out

III. THEORETICAL ANALYSIS AND RESEARCH HYPOTHESIS

The objectives of internal control include five aspects: the first is to ensure that the enterprise meets the requirements of laws and regulations in the process of operation and management; the second is to ensure the safety of enterprise funds; the third is to ensure the authenticity and integrity of

financial statements and financial information; the fourth is to improve the efficiency of operation and management; The fifth aspect is to promote the realization of the strategic objectives of enterprises.

According to the establishment of the target, the mechanism of internal control on the cost of equity capital is analyzed. Firstly, in the capital stock market, investors in China make judgments on the value of enterprises based on the information obtained, predict the future profitability level, and make corresponding decisions accordingly. In this process, investors will be faced with the risk of insufficient information. Information disclosure of listed companies is an important part of securities market supervision. The quality of internal control of enterprises will have a direct impact on the financial reports disclosed by enterprises, affecting the authenticity and integrity of their reporting information. For companies with true and reliable information disclosure, investors face low information risk, and the required risk compensation will be reduced, thus the cost of equity capital will be reduced. Secondly, the other objectives of internal control indicate that risk prediction, risk assessment and risk control are the components of internal control, and are also important aspects that enterprises themselves need to control in the process of operation and development. In the process of operation and management, there is a bad behavior that damages the overall interests of the enterprise for the sake of personal interests, which leads to the failure of the enterprise to fulfill the established objectives and tasks, and increases the operational risk. Therefore, the management of enterprises need to coordinate the relationship between departments and employees through internal control norms. With the improvement of the quality of internal control, the waste of personal resources to enterprises will be reduced, and the communication between departments will be smooth. Therefore, the business efficiency will be improved, and the possibility of achieving the predetermined business objectives will be increased. Thus, the business risk will be greatly reduced, and the risk compensation required by investors will be reduced. The cost of equity capital has declined.

This paper analyzes the correlation between these five aspects of internal control and the cost of equity capital, and puts forward the following assumptions:

Hypothesis: the higher the internal control index of Listed Companies in household appliances industry, the lower the cost of equity capital

IV. RESEARCH DESIGN

Sample Selection and Data Sources

This paper selects the listed companies of Shanghai and Shenzhen Stock Exchange in the home appliance industry to conduct an empirical study on the two listed companies.

(1) In the empirical study, the sample is eliminated, and some ST listed companies are eliminated because of the major loopholes in their management, which has nothing to do with the empirical study.

(2) PEG model is used to calculate the cost of equity capital in this paper, which needs to collect earnings per share and share price indicators, so the companies whose earnings per share

have not changed at the beginning and end of the year are excluded.

(3) Excluding listed companies with abnormal financial indicators.

Based on the above-mentioned rejection principle, this paper selects 32 samples of listed companies, using the financial data of the listed companies in 2018. The data comes from Sina Financial Website, Oriental Wealth Website and Netease Financial Website. The annual reports are from Shanghai Stock Exchange and Shenzhen Stock Exchange.

Variable Settings

This paper studies the relationship between internal control and cost of equity capital, and establishes corresponding variables.

(1) Explanatory variables

The cost of equity capital (r) is an index to study the cost of capital. The measurement of the index is influenced by many factors. Different experts and scholars have given different calculation methods. Generally speaking, it is divided into several large measurement models, including capital asset pricing model (CAPM), arbitrage pricing model (APT), three-factor model (FFM), dividend discount model (DDM), residual income model (RIM), abnormal income model. In this paper, when the explanatory variables are determined, the PEG model in the abnormal return model is selected, which is based on the operational principle and convenient for data collection and collation.

PEG model is the application of two indicators for analysis and calculation, one is the return of each share, one is the stock price. The formula is as follows:

$$r = \frac{\text{eps}_2 - \text{eps}_1}{P_0}$$

eps_i (i=1, 2) : Earnings per share at the beginning and end of the year

P₀ : Current stock price

The following table 1 shows the cost of equity capital (r) of a sample of 32 listed companies, calculated according to the financial data disclosed by the listed companies for 2018 and the above formula.

(2) Explanatory variables

In this paper, the quality of internal control is measured by self-built internal control index. In fact, internal control itself is a multi-factor influence, it is difficult to use one or several indicators for comprehensive evaluation. According to the five elements of internal control, the target of the enterprise is divided into strategic target, operating target, asset safety target, compliance target and reporting target. However, because the reporting target is judged by the audit opinion of the financial report, the audit opinion of the listed company in the sample is unreserved, the empirical analysis is made. Therefore, in the process of analysis, we will eliminate the reporting objectives, no longer analyze the reporting objectives, and will focus on the analysis of the four objectives of internal control construction.

TABLE 1. Cost of equity capital of Listed Companies in household appliances industry (R)

Enterprise code	End of year earnings per share	Early earnings per share	Early year stock price	r
600060	1.344	1.138	17.12	0.1096937
600261	0.31	0.26	7.22	0.0832178
600336	0.04	0.03	8.04	0.0352673
600690	0.826	0.705	9.88	0.110666
600839	0.1202	-0.428	4.18	0.3621441
600854	0.0233	0.0215	7.35	0.0156492
600983	0.49	0.48	11.66	0.0292854
603366	0.3048	0.34	9.51	0.0608389
603519	0.453	0.847	30.03	0.1145435
000016	0.0397	-0.5219	4.51	0.3528786
000100	0.1312	0.2141	3.3	0.1584967
000333	2.29	2.99	28.17	0.1576361
000418	1.86	1.45	32.32	0.1126306
000521	0.2717	0.0347	6.92	0.1850637
000533	0.33	0.18	12.82	0.1081687
000541	0.8429	0.042	9.84	0.2852933
000651	2.56	2.08	24.62	0.1396293
000921	0.8	0.43	10.21	0.1903654
002005	0.0227	0.0142	5.75	0.0384482
002032	1.712	1.416	34.92	0.092068
002035	0.91	0.58	25.95	0.1127686
002076	0.1103	0.1613	13.53	0.0613955
002242	0.91	0.81	18.03	0.0744736
002403	0.41	0.36	14.62	0.0584805
002429	0.23	0.22	9.96	0.0316862
002508	1.67	1.73	36.8	0.0403786
002543	0.9799	0.7252	17.4	0.1209873
002668	1.8	1.61	70.95	0.0517488
002677	0.32	0.39	11.7	0.0773492
002681	0.31	0.48	12.93	0.1146635
002705	0.7501	0.6415	16.91	0.0801389
002723	0.0353	0.2287	25.25	0.087518

1. Strategic objectives (STB)

Strategic goal is a long-term plan for the development of enterprises, which has a guiding role in the management and operation of enterprises. Every year, the shareholders' meeting of listed companies will re-evaluate and plan the strategic goal. Strategic objectives in line with their own development is a powerful boost to the competitiveness of enterprises, the establishment of strategic objectives is also part of the internal control of enterprises, especially for household appliances enterprises, the setting of strategic objectives is extremely important. This paper selects the growth rate of total assets, sales growth rate, shareholder equity ratio and net assets per share to reflect the realization of the strategic objectives of household appliances enterprises.

2. Business objectives (OPE)

Household appliances industry is a manufacturing industry, for manufacturing enterprises, management and production operation is an important part, directly related to the future development of enterprises. The realization of business objectives is related to many indicators. Inventory, accounts receivable, cash flow, sales and other links or aspects can affect the realization of business management objectives. Therefore, in the aspect of operation and management, we select three indicators, namely, total asset turnover rate, operating profit rate and net asset return rate.

3. Asset safety objectives (ASS)

Asset security is a key part of internal control. Asset security is a link of internal supervision, which affects the operation and management of enterprises. The establishment of this index is mainly around the loss of assets impairment. At present, the disclosure of internal control information is incomplete, and many listed companies choose not to disclose, so this part of the index is reflected by the ratio between the loss of assets impairment and operating income. The other part chooses the liquidity ratio, which is the basic guarantee for the operation and production of enterprises and affects the cost of equity capital of listed companies.

4. Compliance objectives (COM).

The management, operation and production of listed companies need to meet the requirements of laws and regulations, disclose company information according to the rules of the stock exchange market, and accept the supervision of the SFC. This part reflects the control environment and risk response of internal control. If there is a violation, the index assignment is 1, otherwise the assignment is 0.

Internal control index (ICI) is a comprehensive analysis based on the above four objectives. These four objectives involve enterprise investment and financing, production and sales, management and financial operations, and can objectively evaluate the internal control of enterprises. Therefore, this paper selects these 10 indicators to construct the internal control index (ICI). After data processing, 10 indexes are reduced by principal component analysis, principal component factors are selected according to variance interpretation, and the weight of each principal component factor is determined accordingly. The internal control index is obtained by weighted average method. The internal control index is used as an explanatory variable in empirical analysis.

TABLE 2. Index list of internal control index (ICI)

Specification of variable	Evaluation index	Specification of variable	Evaluation index
STB	Total assets growth rate (R1)	OPE	Total assets turnover (R5)
	Sales growth rate (R2)		Operating profit margin (R6)
	Shareholder equity ratio (R3)		Net asset yield (R7)
	Net assets per share (R4)	ASS	Impairment of assets (R8)
Irregularities (R10) If there is a violation, the index assignment is 1, otherwise it is 0.	Liquidity ratio (R9)		

(3) Control variables

1. Whether or not to lose money (LOSS)

If an enterprise loses money in that year, it will affect the level of internal control risk in that year. Therefore, when analyzing the cost of equity capital, it should consider whether the net profit of the enterprise is negative. If it is negative, the index is 0, otherwise it is 1.

2. Beta coefficient (BETA)

Beta coefficient is to measure the volatility of a stock relative to the whole stock market. The size of the index is

related to the market risk of a stock. Therefore, when analyzing the cost of equity capital, we should control the coefficient of variable beta and the risk level of stock in the capital market.

3. Net profit per share (NPPS)

Net profit per share is an indicator of the value of listed companies, linking the number of ordinary shares to the net profit of the company.

TABLE 3. Summary of variables

Variable type	Code	Name	Definition
Explained variable	r	cost of equity capital	Obtained by PEG model.
Explanatory variable	ICI	internal control index	Construction of 10 indicators from the target of internal control
Control variable	LOSS	Lose or not	If the company loses money in that year, the assignment is 1, otherwise it will be 0.
	BETA	beta coefficient	The risk level of a single stock relative to the equity capital market.
	NPPS	Net profit per share	Net profit / common stock number

Model design

(1) This paper studies the internal control of listed companies, so it is necessary to evaluate the quality of internal control. This paper builds an index model of internal control, carries out comprehensive evaluation and analysis, and uses the model of principal component analysis to evaluate the internal control of listed companies.

$$f_m = A_{1,m} R_1 + A_{2,m} R_2 + A_{3,m} R_3 + A_{4,m} R_4 + \dots + A_{n,m} R_n$$

$A_{n,m}$: the factor score coefficient matrix; R_n : the n variable.

$F = b_m * f_m$; b_m : Variance contribution rate of each factor;

f_m : The m principal component factor

(2) This paper studies the relationship between the quality of internal control and the cost of equity capital. Therefore, the cost of equity capital (r) is taken as a dependent variable and the self-built internal control index (ICI) as an independent variable.

$$r = \beta_0 + \beta_1 ICI + \beta_2 LOSS + \beta_3 BETA + \beta_4 LEV + \beta_5 NPPS + \epsilon$$

V. RESULT

Principal component analysis of internal control quality

Principal Component Analysis (PCA) is to replace the original variables with relatively few indicators under the condition of ensuring the information content of the original variables, which are called factors. In empirical research, factors are usually used to replace the original variables for empirical analysis.

(1) KMO and Bartlett test

Before factor analysis, KMO and Bartlett test are needed for the sample data. Factor analysis can only be carried out if the sample data passes the test. Factor analysis can only be carried out when the KMO test coefficient is more than 0.5 and the P value of Bartlett sphericity test is less than 0.05. SPSS software was used to test the sample data, and the following results were obtained:

TABLE 4. KMO and Bartlett test

KMO sample Appropriateness		.514
The sphericity of Bartlett checks	The last read $\chi^2(n)$	190.009
	Freedom	45
	Saliency	.000

As can be seen from Table 4, the KMO test coefficient of sample data is 0.514, and the P value of Bartlett sphericity test is 0.000, which indicates that sample data is more suitable for factor analysis.

(2) Principal component analysis

The variance contribution rate and component score coefficient matrix are obtained through principal component analysis.

TABLE 5. Interpretation of total variance

Assembly	Initial eigenvalue			Extracting load sum of squares			Quadratic sum of rotational loads
	Total	Variance percentage	Cumulative %	Total	Variance percentage	Cumulative %	
1	3.512	35.121	35.121	3.512	35.121	35.121	2.443
2	2.443	24.431	59.552	2.443	24.431	59.552	2.421
3	1.435	14.352	73.904	1.435	14.352	73.904	1.988
4	.809	8.088	81.992	.809	8.088	81.992	1.347
5	.662	6.618	88.610				
6	.463	4.631	93.241				
7	.325	3.253	96.494				
8	.206	2.065	98.559				
9	.105	1.051	99.610				
10	.039	.390	100.000				

The principal component analysis method used in this paper is: extracting the principal component fm (fm represents the m principal component) by SPSS software analysis and calculating fm;

According to the explanatory table of total variance, four principal component factors are selected. f1 includes shareholder equity ratio and liquidity ratio, f2 includes total asset turnover ratio, asset impairment/operating income, operating profit ratio, f3 includes total asset growth rate, sales growth rate, compliance target, f4 includes net asset per share and return on net assets, which will be reduced to four principal components.

TABLE 6. Component score coefficient matrix

	Assembly			
	1	2	3	4
Total assets growth rate	-.089	-.282	.560	.158
Sales growth rate	.073	.062	.303	.093
Shareholder equity ratio	.357	-.050	-.051	.002
net asset value per share	-.035	-.191	.001	.788
Turnover of total assets	-.223	.474	-.267	-.194
Operating profit rate	.243	.254	.033	.009
Return on net assets	.094	.153	-.023	.355
Asset impairment / operating income	.051	-.454	.106	.177
Flow rate	.389	-.002	.041	-.019
Compliance goals	-.056	.059	-.436	.183

According to Table 6, the weighted average of the corresponding factor indices is carried out through the scoring coefficient of the principal component factor. The specific

calculation is as follows:

$$\begin{aligned}
 f_1 &= 0.089 * R1 + 0.073 * R2 + 0.357 * R3 + -0.035 * R4 + \\
 &\quad 0.223 * R5 + 0.243 * R6 + 0.094 * R7 \\
 &\quad + 0.051 * R8 + 0.389 * R9 + -0.056 * R10 \\
 f_2 &= 0.282 * R1 + 0.062 * R2 + -0.05 * R3 + \\
 &\quad 0.191 * R4 + 0.474 * R5 + 0.254 * R6 + 0.153 * R7 \\
 &\quad + -0.454 * R8 + -0.002 * R9 + 0.059 * R10 \\
 f_3 &= 0.56 * R1 + 0.303 * R2 + -0.051 * R3 + 0.001 * R4 + \\
 &\quad 0.267 * R5 + 0.033 * R6 + -0.023 * R7 \\
 &\quad + 0.106 * R8 + 0.041 * R9 + -0.436 * R10 \\
 f_4 &= 0.158 * R1 + 0.093 * R2 + 0.002 * R3 + 0.788 * R4 + \\
 &\quad 0.194 * R5 + 0.009 * R6 + 0.355 * R7 \\
 &\quad + 0.177 * R8 + -0.019 * R9 + 0.183 * R10
 \end{aligned}$$

(3) Calculating the weight of components.

According to table 6, 81.992% is the variance contribution rate, and the variance contribution rate of the four principal components is respectively.

$$u_1 = 35.121\%, u_2 = 24.431\%, u_3 = 14.352\%, u_4 = 8.088\%$$

According to the above model, the internal control index (ICI) of the following table is constructed.

TABLE 7. ICI of Listed Companies in household appliances industry

Enterprise code	ICI	Enterprise code	ICI
600060	0.52849	000651	0.282808
600261	0.429368	000921	0.238223
600336	0.29306	002005	0.144276
600690	0.265455	002032	0.420193
600839	0.176587	002035	0.365977
600854	0.387432	002076	0.316844
600983	0.317238	002242	0.380329
603366	0.48214	002403	0.363336
603519	0.694267	002429	0.444443
000016	0.185239	002508	0.616716
000100	0.235262	002543	0.432684
000333	0.316936	002668	0.292799
000418	0.398785	002677	0.916345
000521	0.344624	002681	0.557313
000533	0.425757	002705	0.258281
000541	0.8888	002723	0.225929

Descriptive analysis

Descriptive statistics are made on the indicators used in this paper to understand the data characteristics of variables. The results are shown in the table above.

According to the descriptive statistics table 8, the dependent variables r, i.e. the minimum and maximum cost of equity capital, are 0.0156 and 0.3621, respectively, with an average value of 0.1142. From this, it can be seen that the cost of equity capital of each listed company in household appliances industry varies greatly, and the variance 0.007 indicates that the data are relatively concentrated. For the built-in internal control index, the minimum and maximum values are 0.1443 and 0.9163, respectively, and the average value is 0.3946. Descriptive statistics reflect the difference between the data. The variance of the internal control index (ICI) is 0.033, and the data is relatively centralized, which shows that there are differences in the effectiveness of internal control in the household appliances industry.

TABLE 8. Descriptive analysis

	Figure	Minimum (M)	Maximum (X)	Mean (E)	Standard deviation	Variance
r	32	.0156492159287190	.3621440671319243	.114174159613771	.084853416265080	.007
ICI	32	.1442758156167638	.9163447280509556	.394560455752648	.182968318121430	.033
Net profit per share	32	-1.2315	7.6932	2.189431	2.3101580	5.337
lose or not	32	.0	1.0	.031	.1768	.031
beta	32	-.0736696265139714	2.9906224529593760	1.074449297088094	.672890539989289	.453
Effective N (column)	32					

The minimum and maximum net profit per share are - 1.2315 and 7.6932, with an average value of 2.1894 and a variance of 5.337; the minimum and maximum beta coefficients are -0.07367 and 2.9906, with an average value of 1.0744 and a variance of 0.453; the average value of loss is 0.031 and the variance is 0.031.

Correlation analysis

TABLE 9. Correlation

		r	ICI	Net profit per share	Lose or not	Beta
r	Pearson Correlation	1	-.079	-.086	-.212	-.194
	Saliency(double tail)		.668	.641	.244	.286
	N	32	32	32	32	32
ICI	Pearson Correlation	-.079	1	-.005	-.007	-.180
	Saliency(double tail)	.668		.980	.969	.323
	N	32	32	32	32	32
Net profit per share	Pearson Correlation	-.086	-.005	1	-.270	.327
	Saliency(double tail)	.641	.980		.135	.068
	N	32	32	32	32	32
Lose or not	Pearson Correlation	-.212	-.007	-.270	1	.157
	Saliency(double tail)	.244	.969	.135		.391
	N	32	32	32	32	32
Beta	Pearson Correlation	-.194	-.180	.327	.157	1
	Saliency(double tail)	.286	.323	.068	.391	
	N	32	32	32	32	32

Table 9 will analyze the correlation between explanatory variables and control variables. It is found that the correlation between equity capital cost (r) and loss, beta and net assets per share of Listed Companies in household appliances industry is negatively correlated. The correlation between the explanatory variables and the explanatory variables, the internal control index (ICI) as an independent variable, the correlation analysis is to analyze whether the quality of internal control is related to the cost of equity capital of listed companies. According to the correlation of SPSS software, there is a negative correlation between them. It is concluded that the effect of self-built internal control index on the cost of equity capital under PEG model is not high. Improving the quality of internal control of enterprises is not directly helpful to control the cost of equity capital.

Regression analysis

Using SPSS22 statistical analysis software for linear regression analysis, the following conclusions are reached:

(1) Goodness of fit of model

TABLE 10. Model summary

Model	R	R2	adjusted R2	Error of standard estimate	Change statistics		
					Change of R2	Change of F	df1
	.302a	.091	-.043	.086675913293208	.091	.678	4

a. prediction variables : (constant), beta, ICI, Lose or not, Net profit per share

The goodness-of-fit of the regression equation can be seen from the table that the R-square is 0.091, and the goodness-of-fit of the regression equation is not high.

(2) Regression equation test

TABLE 11. Coefficient^a

Model	Non standardized coefficient		standardized coefficient	t	Saliency
	B	Standard error	BETA		
(constant)	.165	.049		3.387	.002
ICI	-.050	.087	-.108	-.576	.570
Net profit per share	-.004	.008	-.096	-.462	.648
Lose or not	-.103	.095	-.215	-1.086	.287
beta	-.019	.026	-.149	-.724	.475

a. dependent variable: r

b. independent variable: ICI

According to the results of the regression equation, the explanatory variables (equity capital cost r) and the explanatory variables (internal control index ICI) are linearly regressed. As shown in the table above, the T value of the control variables is -0.576, and the significance is 0.57. This shows that there is no significant negative correlation between the comprehensive evaluation index of internal control quality and the cost of equity capital of listed companies.

Empirical conclusion

Through the empirical analysis of this paper, the above hypothesis is not valid, that is, the internal control quality of listed companies is evaluated comprehensively by 10 indicators. The higher the internal control index (ICI) of listed companies, the less significant the reduction of the cost of equity capital (r).

From the results of descriptive analysis, correlation analysis and regression analysis, the cost of equity capital (r) of 32 listed companies is quite different, and the listed companies need to pay attention to many aspects of impact in equity financing. From the correlation analysis, the correlation between the cost of equity capital and control variables is not significant. Whether loss, beta coefficient, net profit per share and other indicators are more important indicators in the process of enterprise management. The correlation coefficient between these indicators and the cost of equity capital is -

0.086, -0.212, -0.194, so the correlation is not significant. Changing these variables has no significant effect on reducing the cost of equity capital.

The cost of equity capital is related to the quality of internal control. The internal control index (ICI) is a comprehensive evaluation based on the index evaluation system of internal control. The principal component analysis method is used to establish the model. The variance interpretation ratio is used as the weight and the related equations are established. The cost of equity capital (r) is based on the PEG model and passes through each other. The reference value is derived from stock earnings and share price. The analysis also shows that there is not a significant negative correlation between internal control and cost of equity capital. This shows that strengthening the construction of internal control is helpful to the equity financing of listed companies, and is conducive to reducing the cost of financing.

This paper chooses household appliances industry as the research object. There are only 32 listed companies and 32 effective research samples, which leads to the low fitting degree of regression equation in empirical analysis. At the same time, because of the unfairness of China's capital securities market, the PEG model is used to calculate the cost of equity capital of listed companies, which leads to the correlation between the two variables is not significant.

VI. CONCLUSION AND ENLIGHTENMENT

Based on theoretical analysis and empirical results, the following conclusions can be drawn: Listed companies need to strengthen the construction of internal control and improve it. This study explores the relationship between the cost of equity capital and internal control from the perspective of corporate governance. The cost of equity capital and the five objectives are interacted. The cost of equity capital and internal control interact and synergize. The cost of equity capital also belongs to the scope of broad internal control and reflects the quality of internal control.

According to the current research situation of experts and scholars, strengthening the five objectives of internal control is conducive to reducing the cost of equity financing, and the relevant countermeasures and suggestions are provided as follows. Internal control of a company needs to establish an internal control system that meets its own development requirements. The completion of strategic and operational objectives is conducive to reducing the cost of equity capital. The company should strengthen asset safety and ensure cash flow of enterprises. Reporting objectives and compliance objectives reflect that business management conforms to the

requirements of laws and regulations, complying with the regulatory requirements of the SFC.

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