

# Empirical Study on the Impact of Information Disclosure Quality on Listed Companies' Value

—An Empirical Analysis of China's Listed Companies from 2013 to 2015

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**Abstract.** Firstly, this paper analyzes the information disclosure status of A-share listed companies in Shenzhen Stock Exchange. Through the statistics and analysis of information disclosure assessment results, it finds out that the information disclosure level of listed companies has been obviously improved. This result shows that relevant rules and regulations of information disclosure implemented in recent years played a certain role. Secondly, using the data from 2013 to 2015 as a sample, taking Tobin's Q value as the surrogate variable of the company's value, the assessment result of the Shenzhen Stock Exchange's information disclosure as the substitute variable of the information disclosure quality, introducing the relevant control variables, establishing regression model to empirically analyze the impact of quality of information disclosure on enterprise value. The results indicate that the quality of information disclosure of listed companies has a positive correlation with the value of the company.

**Keywords:** Information Disclosure Quality; Listed Company; Company Value; Tobin's Q.

## 1 Introduction

China's securities market has experienced so many years of development, the quality of information disclosure of listed companies is directly related to the securities market efficiency, investor protection and other important issues. Coupled with the separation of management and ownership, as well as the asymmetry of information between listed companies and external investors, therefore, it is very important for the healthy development of China's capital market to reasonably guide the disclosure behavior of listed companies, improve the quality of information disclosure and enhance the effective market information.

## 2 Theoretical Basis and Analysis

This paper is based on the theory of information economics, and takes Shenzhen Stock Exchange listed companies as the research object [1]. It mainly studies the relationship between the quality of information disclosure and the value of the company, hoping to get a positive influence on the value of the company. Such result reveals a great practical and theoretical significance for promoting the improvement of information disclosure level, protecting the interests of investors and improving the efficiency of securities market.

### 2.1 For enterprises

If the higher the quality of information disclosure, the greater the value of the enterprise, it will be easier for investors to receive a signal then reduce the uncertainty of investment. At the same time, to a certain extent, it is helpful in reducing the "bad money drive out good money" lemon market effect [2]. In order to maximize profits, enhance corporate image and reduce financing costs, enterprises will adopt appropriate measures to improve the quality of information disclosure, improve corporate governance structure, improve corporate governance efficiency and achieve the company's planning and objectives.

## 2.2 For regulators

Regulatory departments are the bridge between investors and listed companies. More emphasis on the quality of information disclosure, more measures can be taken. Therefore the efficiency of capital market operation can be improved.

## 2.3 For investors

As with enterprises, investors are also the main participants in the capital market. Although both are essential, lack of effective exchange of information, resulting in the phenomenon of asymmetric information [3]. High level of information disclosure can reduce investment risks and protect investors' interests. The signal transfer theory holds that when information disclosure quality rises to a certain level, it can reduce information asymmetry, information collection cost and transaction uncertainty, and protect the interests of investors.

## 3 Empirical research design, Test results and Analysis

### 3.1 An Analysis of the Quality of Listed Companies' Information Disclosure in Shenzhen Stock Exchange

This paper chooses the companies listed on the Shenzhen Stock Exchange as sample data. Statistics from the 2001-2015 information disclosure quality assessment results, as shown in Table 1.

**Table 1** Shenzhen Stock Exchange disclosure of all companies evaluation information

Years	Total	Excellent(A)		Good(B)		Qualified(C)		Unqualified(D)	
		QTY	PR (%)	QTY	PR (%)	QTY	PR (%)	QTY	PR (%)
2001	517	30	5.80%	201	38.88%	251	48.55%	35	6.77%
2002	509	40	7.86%	239	46.95%	197	38.70%	33	6.48%
2003	507	41	8.09%	268	52.86%	173	34.12%	25	4.93%
2004	502	30	5.98%	303	60.36%	147	29.28%	22	4.38%
2005	547	55	10.05%	308	56.31%	149	27.24%	35	6.40%
2006	592	59	9.97%	313	52.87%	188	31.76%	32	5.41%
2007	690	66	9.57%	363	52.61%	234	33.91%	27	3.91%
2008	759	80	10.54%	454	59.82%	206	27.14%	19	2.50%
2009	812	97	11.95%	550	67.73%	147	18.10%	18	2.22%
2010	1168	155	13.27%	806	69.01%	191	16.35%	16	1.37%
2011	1411	233	16.51%	985	69.81%	169	11.98%	24	1.70%
2012	1537	243	15.81%	1082	70.40%	193	12.56%	19	1.24%
2013	1536	296	19.27%	1064	69.27%	159	10.35%	17	1.11%
2014	1618	336	20.77%	1103	68.17%	147	9.09%	32	1.98%
2015	1746	360	20.62%	1136	65.06%	210	12.03%	40	2.29%

It can be seen that the number of listed companies with "Excellent" and "Good" information disclosure is on the rise. And the proportion of "Qualified" and "Good" fluctuates more obviously with time, while the proportion changes at level A and D are comparatively slower. In general, the overall disclosure level of listed companies in China is in a good trend. The proportional growth of companies with high quality disclosure tends to be moderate and needs to be further improved [4]. At the same time, the trend of deteriorating companies with low quality disclosure must be curbed.

In addition, this article collects data from 1998 when penalties started to be record. The punishment record statistics of Shenzhen Stock Exchange listed companies from 1998 to 2015 is shown in Table 2. The total number of companies punished in 2001 reached a peak with 115 cases, then declined to normal levels year after year. The table shows that the number of companies subject to penalties is slowly declining, but the number of companies subject to penalties is further exacerbated by 2013-2015.

**Table 2** Punished company of Shenzhen Stock Exchange (1998-2015)

<i>Penalty category</i>	<i>Public condemnation</i>	<i>Notification of criticism in exchange</i>	<i>Internal criticism</i>	<i>Notification of criticism</i>	<i>Total</i>
<i>Years</i>					
<b>1998</b>	0	1	0	0	1
<b>1999</b>	0	1	4	0	5
<b>2000</b>	3	3	11	0	17
<b>2001</b>	32	0	83	0	115
<b>2002</b>	21	0	71	0	92
<b>2003</b>	17	0	63	0	80
<b>2004</b>	18	0	26	2	46
<b>2005</b>	33	6	15	1	55
<b>2006</b>	28	5	5	3	41
<b>2007</b>	15	22	3	10	50
<b>2008</b>	11	21	0	13	45
<b>2009</b>	9	28	0	14	51
<b>2010</b>	7	23	0	24	54
<b>2011</b>	5	18	0	24	47
<b>2012</b>	6	9	0	32	47
<b>2013</b>	10	0	0	53	63
<b>2014</b>	9	0	0	47	56
<b>2015</b>	22	0	0	47	69

### 3.2 Sample selection and source of data

Based on the richness, coverage and comprehensiveness of the research results, this paper chooses the main board of Shenzhen Stock Exchange, SME board and GEM listed companies from 2013 to 2015. The data are from CSMAR and Shenzhen Stock Exchange Information disclosure integrity files, and use Excel and SPSS 22.0 software for data processing. After excluding ST companies, financial industry companies, data outliers, and incomplete data, 3860 samples were obtained, 1352 in 2013, 1318 in 2014, and 1190 in 2015. The sample includes 16 industries.

### 3.3 The definition of variables

In this paper, Tobin's Q is used as the substitute variable of the company's value, and the annual information disclosure evaluation result of Shenzhen Stock Exchange is the substitute variable of information disclosure quality.

Meanwhile, it introduced 9 controlled variables including the scale of ownership, the size of the board of directors, the proportion of independent directors in the board of directors, the unity of the two positions, company size, asset-liability ratio, growth, annual dummy variables and industry dummy variables. As shown in Table 3.

**Table 3** Variable Schedules

	<i>Name of the variables</i>	<i>Symbol of the variable</i>	<i>Explanation of variables</i>
<i>Explained variable</i>	Company Value	Tobin's Q	(Price × Number of tradable shares + Net assets per share × Number of non - circulating shares + Book value of liabilities) / Total assets
<i>Explanatory variables</i>	Disclosure quality	Quality	Shenzhen Stock Exchange's annual information disclosure evaluation results, A=4, B=3, C=2, D=1.
<i>Control variables</i>	Equity concentration	CR <sub>1</sub>	Number of shares held by the largest shareholder / Total number of shares
	Board size	Bordsize	Number of Board Members
	Proportion of Independent Directors in the Board of Directors	INDR	The proportion of the number of independent directors in the board of directors.
	Two-in-one	CEO	Whether the chairman and general manager of the company are the same person. Yes=1; No=2.
	Company Size	Size	The natural logarithm of the total assets of the company at the end of the period.
	asset-liability ratio	Lev	Total liabilities at the end of the year / Total assets at the end of the year
	Growth	Growth	Net profit growth rate =( Net profit for this year - Net profit last year)/ Net profit last year
	Dummy variable of year	Year	Involving 3 years, set up 2 annual dummy variable.
Dummy variable of industry	Industry	Involving 16 industry classification, set 15 industry dummy variables.	

#### 4 Research assumptions and models

Based on the above analysis, this paper assumes that the quality of information disclosure and the value of listed companies have a significant positive correlation, and uses the multiple regression analysis. Therefore, the following model was constructed for testing:

$$Tobin's Q = a + \beta_1 Quality + \beta_2 Size + \beta_3 Lev + \beta_4 Growth + \beta_5 CR_1 + \beta_6 Bordsize + \beta_7 INDR + \beta_8 CEO + \beta_9 Industry + \beta_{10} Year + \varepsilon \quad (1)$$

#### 5 Empirical Test Results and Analysis

##### 5.1 Descriptive statistics

From Table 4 we can see that in 2013-2015, the average of the information disclosure evaluation results for the sample companies in the Shenzhen Stock Exchange in the integrity is 3.12, the standard deviation is 0.58. It reveals that the overall level of information disclosure is in good condition, and the overall quality of information disclosure is high. The difference between the maximum and minimum values of Tobin's Q is 9.86, while the mean is only 2.92, which indicates that the corporate value gap between the sample enterprises selected in this paper is large and not at the same level.

**Table 4** Sample descriptive statistics

	<i>Number</i>	<i>Minimum Value(M)</i>	<i>The Maximum(X)</i>	<i>Average Value (E)</i>	<i>Standard Deviation</i>	<i>Variance</i>
<i>Tobin's Q</i>	3860	0.84	10.7	2.9152	1.72389	2.972
<i>Quality</i>	3860	1	4	3.12	0.577	0.332
<i>Size</i>	3860	18.59	27.14	21.8435	1.06048	1.125
<i>Growth</i>	3860	-1581.48	1309.16	5.8486	165.7040	27457.83
<i>Lev</i>	3860	0.8	91.01	39.0225	20.22464	409.036
<i>CR<sub>1</sub></i>	3860	3.62	89.99	34.2185	14.46488	209.233
<i>Bordsize</i>	3860	4	18	8.48	1.622	2.63
<i>INDR</i>	3860	18.18	71.43	37.4972	5.58538	31.196
<i>CEO</i>	3860	1	2	1.69	0.461	0.213
<i>Effective N</i>	3860					

**5.2 Correlation analysis**

Considering that multicollinearity may be an issue pertaining to sample variables, the Spearman correlation of the sample variables is analyzed. From the overall sample correlation analysis in Table 5, it can be seen that there is a significant positive correlation between information disclosure quality and corporate value Tobin's Q [5]. That is, after controlling the interaction between information disclosure quality and corporate value, the improvement of information disclosure quality can significantly improve company value.

**Table 5** Spearman correlations

<i>Spearman's rho</i>		1	2	3	4	5	6	7	8	9
<b>1. Tobin's Q</b>	<b>Correlation Coefficient</b>	1	.038*	-.523**	.120**	-.513**	-.074**	-.185**	.069**	-.132**
	<b>Sig. (2-tailed)</b>	.	0.018	0	0	0	0	0	0	0
<b>2. Quality</b>	<b>Correlation Coefficient</b>	.038*	1	.123**	.049**	-.107**	.082**	.063**	-0.025	0.027
	<b>Sig. (2-tailed)</b>	0.018	.	0	0.002	0	0	0	0.125	0.088
<b>3. Size</b>	<b>Correlation Coefficient</b>	-.523**	.123**	1	.045**	.572**	.098**	.225**	-.056**	.160**
	<b>Sig. (2-tailed)</b>	0	0	.	0.005	0	0	0	0	0
<b>4. Growth</b>	<b>Correlation Coefficient</b>	.120**	.049**	.045**	1	0.022	-0.022	-0.008	-0.01	-0.02
	<b>Sig. (2-tailed)</b>	0	0.002	0.005	.	0.172	0.17	0.631	0.528	0.223
<b>5. Lev</b>	<b>Correlation Coefficient</b>	-.513**	-.107**	.572**	0.022	1	.049**	.141**	-.034*	.082**
	<b>Sig. (2-tailed)</b>	0	0	0	0.172	.	0.002	0	0.037	0
<b>6. CR<sub>1</sub></b>	<b>Correlation Coefficient</b>	-.074**	.082**	.098**	-0.022	.049**	1	-.051**	0.026	0.01
	<b>Sig. (2-tailed)</b>	0	0	0	0.17	0.002	.	0.001	0.104	0.546
<b>7. Bordsize</b>	<b>Correlation Coefficient</b>	-.185**	.063**	.225**	-0.008	.141**	-.051**	1	-.633**	.200**
	<b>Sig. (2-tailed)</b>	0	0	0	0.631	0	0.001	.	0	0
<b>8. INDR</b>	<b>Correlation Coefficient</b>	.069**	-0.025	-.056**	-0.01	-.034*	0.026	-.633**	1	-.141**
	<b>Sig. (2-tailed)</b>	0	0.125	0	0.528	0.037	0.104	0	.	0
<b>9. CEO</b>	<b>Correlation Coefficient</b>	-.132**	0.027	.160**	-0.02	.082**	0.01	.200**	-.141**	1
	<b>Sig. (2-tailed)</b>	0	0.088	0	0.223	0	0.546	0	0	.

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\* Correlation is significant at the 0.01 level (2-tailed).

**5.3 Regression test**

From the model summary Table 6, we can see the fitting of the model. Since the complex correlation coefficient R is 0.675, the determination coefficient R is 0.455 and the adjusted R is 0.452, which indicates that the fitting degree of the regression equation is acceptable.

**Table 6** Model Summary<sup>i</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			Change Statistics	
					R Square Change	F Change	df1	df2	Sig. F Change
8	.675 <sup>h</sup>	0.455	0.452	1.27643	0.001	3.862	1	3835	0.049

*h. Predictors: (Constant), Year, Industry, Quality, Size, Growth, Lev, CR<sup>1</sup>, Bordsize, INDR, CEO.*

*i. Dependent Variable: Tobin's Q*

From Table 7, it can be seen that the quality of information disclosure has a significant positive correlation with the value of Tobin Q (t = 4.345, P = 0.000 < 0.100) at the 1% significance level, which confirms the objective of this paper. In addition, the growth rate of net profit, the proportion of independent directors, the proportion of the largest shareholder holdings and the value of listed companies that Tobin Q also has a positive correlation. In contrast, the total assets of the natural logarithm of the company size and asset-liability ratio are negative correlated to the value of listed companies which is the Tobin's Q value.

At the same time, it can be found that the influence of industry dummy variables on corporate value can't be ignored. Therefore, it is concluded from the empirical results that it is necessary to implement the requirements of information disclosure by industry [6].

**Table 7** Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
8	(Constant)	15.681	0.583		26.911	0		
	Size	-0.6	0.026	-0.369	-23.211	0	0.562	1.779
	Lev	-0.017	0.001	-0.204	-12.729	0	0.553	1.809
	Quality	0.163	0.037	0.054	4.345	0	0.906	1.103
	Growth	0.001	0	0.049	4.114	0	0.987	1.014
	INDR	0.012	0.004	0.039	3.195	0.001	0.975	1.026
	CR <sup>1</sup>	0.005	0.001	0.04	3.269	0.001	0.949	1.054
	CEO	-0.09	0.046	-0.024	-1.965	0.049	0.946	1.057

*a. Dependent Variable: Tobin's Q*

In this paper, multiple collinearity tests are performed. The variance expansion factor VIF of each explanatory variable is between 1.0 and 2.0, both less than 10. Moreover, the tolerance of each explanatory variable is greater than 0.1. It can be judged that there is no multicollinearity problem between explanatory variables.

Based on the above analysis, we can see that the goodness of fit is 0.452 and F is significant at the level of 1%. The conclusion can be drawn that the regression model has good fitting [7]. After comparing the regression coefficients and the t-values of the Shenzhen Stock Exchange on the main board, SME board, and GEM, we can see that these sample data are almost falls at the 1% significance level, the quality of information disclosure of listed companies is positively related to the value of companies.

**5.4 Robustness test**

In this paper, the earnings per share (EPS) is chosen as the substitute variable of the company's value, and the model robustness test is carried out. As shown in Table 8, there is a significant positive correlation between the level of information disclosure and firm value. This is consistent with the result of Tobin's Q value as a substitute variable of firm value, which indicates that the multiple regression model constructed in this paper is effective and robust, and the empirical results will not change with the change of parameters.

**Table 8** Model Summary<sup>i</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			Change Statistics	
					R Square Change	F Change	df1	df2	Sig. F Change
8	.543 <sup>h</sup>	0.295	0.291	0.35494	0.001	4.217	1	3836	0.04

*h. Predictors: (Constant), Year, Industry, Quality, Size, Growth, Lev, CR<sup>1</sup>, Bordsize, INDR, CEO.*

*i. Dependent Variable: EPS*

## 4 Conclusion

In summary, this paper based on the status quo and research conclusions put forward the following four suggestions:(1) Improve the information disclosure system, strengthen voluntary disclosure of information;(2) Strengthen discipline, rewards and punishments simultaneously. Prevention as the main means;(3) The establishment of intermediary rating agencies, the introduction of third - party evaluation system [8];(4) To cultivate the information needs of investors and guide the improvement of information disclosure. From the empirical results of this paper can be drawn: the company value increases with the company's information disclosure quality. Therefore, the real corporate value of listed companies can be achieved by narrowing the information asymmetry with investors [9]. In order to obtain good economic results, not only beneficial to investors, is also conducive to business.

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