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Do Analyst Attention Help Improve the Growth of Enterprises: Perspective of Financial Constraint

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Abstract: Based on the data of Chinese listed companies obtained by CSMAR, this paper examines the impact of analyst concerns on the growth rate of enterprises' main businesses. The OLS estimation results show that both analysts' attention and research reports' attention have a significant positive impact on the growth rate of the main business of the enterprise. Heterogeneity analysis shows that analysts' concerns have a greater impact on SMEs with total assets below the 50th percentile that year. Mechanism analysis shows that the positive impact of analysts on enterprises is achieved by easing financing constraints. Therefore, this paper believes that analysts' attention is the key factor to promote the growth of SMEs, and investors can also pay more attention to these enterprises. For small and medium-sized enterprises, financing constraints are a very difficult problem. This paper provides a new perspective and empirical evidence to ease the financing constraints of enterprises, especially SMEs.

Keywords: analyst, growth rate, financial constraint

1. Introduction

In the finance there's a term called Analyst. Financial analyst could be a professional qualification title within the securities speculation and administration field. It may be a proficient capability title within the securities venture and administration field. They are conveyed in securities companies, commercial banks, protections companies and venture institutions.

Analysts are locked in in securities industry inquire about within the securities market, which could be a exceedingly cleverly and challenging industry. Its specialists not as it were have hypothetical establishment, viable involvement, and viable capacity, but too have a solid polished skill and polished skill, as well as a tall sense of obligation, A sense of mission and other respectable ethics. Securities examiners are always confronted with a huge sum of data crisscrossing the advertise, counting deception and mixed counsel, as well as speculation bunches at diverse levels within the securities market—whose needs are wide-ranging and particular, and their contrasts are very distinctive. The impact of forming the stock showcase is frequently quick, and the impact of shaping showcase notoriety is additionally exceptionally coordinate. In this way, securities investigators are

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required to mobilize all their intelligence, think freely, and extricate important venture procedures or proposals from deceptions and truths.

Likening the stock market to a herd, analysts are often the leaders of the herd. Because they have richer information sources and information processing skills than ordinary investors, believing that the industry is specialized and interlaced, then these analysts are at least better than ordinary investors in the stock market. more professional. Therefore, their attention or analysis report on a stock is speeding up the transmission of signals to the market or ironing out the folds in the information transmission plane caused by the blockage of transmission channels and the difference in investor processing ability, helping to Investors make better decisions.

Excellent professional quality and good professional ethics have a direct consequence, that is, in foreign countries, once a buy or sell recommendation from a securities analyst with a certain reputation is released, it often attracts widespread attention from the market, and even arouses the market. large fluctuations. Although the opinions expressed by securities analysts are predictions of the future investment environment and investment effects, all of their opinions may not be accurate. However, because securities analysts have high professional quality and professional training, they publish various opinions and estimates that are not biased against any party based on their own unique opinions and beliefs. Therefore, they are trusted by the general investment public, as long as they are Widespread in the market, can have a considerable impact on the market.

Investment analyst also incorporate numerous distinctive categories [1]; from the viewpoint of mechanical venture and monetary venture, they can be partitioned into mechanical speculation examiners and money related venture investigators; budgetary speculation investigators can be subdivided into securities speculation examiners and prospects Speculation examiner; whereas the occupation of my country's mechanical speculation investigator is as it was venture extend investigator.

Financial investment analysts include securities analysts and derivatives analysts. Derivatives refer to products derived from basic financial products such as stocks and bonds. Commodity futures, stock index futures, gold futures, and currency futures are all derivatives.

Securities analysts are also known as stock appraisers and stock analysts in China. It has obtained the securities investment consulting business qualification and practice qualification according to law. Experts who provide information consulting services such as analysis, forecast or advice to the public or investment institutions in the form of experts.

Securities analyst is a career full of wisdom and challenges. The qualifications for an expert are not low. Practitioners need to have knowledge in accounting, auditing, law, etc., and also need to be able to compare and analyze indicators and data such as annual final accounts. . Analyst reports, interim reports, prospectuses. Understand the financial risk and underwriting legal system of securities issuance and the basic framework of the securities market legal system. At the same time, learn the technical analysis of the stock market. It is not only a powerful and comprehensive technical analysis ability, but also innovates according to the operating characteristics of the current securities market on this basis, forming a unique and effective technical analysis method for the securities market. I will come.

Financial analysts play an important role in the marketplace for businesses. They can improve the efficiency of market information exchange and promote long-term high-risk investments, while their earnings forecast targets and stock recommendation opinions also put excessive pressure on companies, causing company management to hinder innovation due to short-sighted behavior. Especially in the seller's market, brokerage firms provide customers with the service of analyzing financial report data and making predictions on future earnings of certain industries and companies in order to recommend individual stocks to ordinary shareholders. At the same time, financial analysts have greatly reduced the problem of market information asymmetry, while reduced the financing

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costs of enterprises and improved the return on investment of small and medium-sized retail investors; But for innovative companies, financial analysts often have some sharp predictions. Innovative companies need long-term observation and stable investment, but financial analysts are based on the return per share of this quarter to predict the performance of the next quarter, and their customers are also using this to judge the investment strategy after that, which will definitely cause short-term performance pressure on the company, and sometimes even force the company to give up long-term investment in research and development and innovation. In order to meet the predictions of financial analysts, many companies usually use the method of surplus management, mainly through some means to reduce costs, and its impact on the future fate of enterprises is very huge.

In our essay, we quote some references from different places. The references we used is basically about: the research about SA index, to determine the relationship between asset scale; the economic model that use to study this topic; and several definitions and tables about the variables, benchmarks, and data.

The following parts of this paper will be organized in the following sequence: Part 2 is a thorough explanation of the research design, which consist data source analysis and model specification, variable definition and summarizing statistical data. Part 3 will then be an analysis of the data generated by the models. The analysis will approach five aspects including general data, benchmark regression, heterogenies analysis, robustness analysis, and mechanism analysis. At the end there will be a conclusion summarizing all model results and research findings.

2. Research Design

2.1. Data Source

The data of listed companies used in this paper comes from China Stock Market & Accounting Research Database (CSMAR), which provides data ranging from the year 2011 to 2019. This database is an authoritative data source that provides quality data through cross-checking statistics by data acquisition personnel. This database also implements a quality controlling department to assure accurate data and track data timeliness.

The data utilized in the graphs presented selectively filtrates data collected from enterprises in the financial industry, companies that have been ST and *ST ----If the stock is marked with ST, it means that the audited net profit of the listed company is negative for two consecutive fiscal years, or the audited net asset value per share of the latest fiscal year is lower than the current par value of the stock. In both cases, the listed company's shares will be preceded by ST, thus alerting shareholders to the risks. *ST indicates that the stock is at risk of delisting [2]. Companies that are missing specific variables, and companies that fall under the percentage that is disregarded after winsorizing.

2.2. Model Specification

The following report will involve an analysis of Summary statistics, benchmark regression, heterogeneity analysis, robustness test, and mechanism test. Before explaining the variables and their purpose serving in the analysis, it is necessary to define each variable in the Micro-Economics Model [3].

$$y_i = \alpha_0 + \alpha_1 \times Variable_i + x_i'\beta + \varepsilon_i \quad (1)$$

In this article, we use multiple linear regression analysis models to examine corporate financing constraints and growth (dependent variable), the measurement strategy used in this paper is to first introduce analyst attention and report attention (core independent variable). The growth and SA index are used to preliminarily determine whether analyst attention can improve enterprise growth and

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influence financing constraints. If the absolute value of SA index is significantly positive, it indicates that the enterprise has financing constraints. If the coefficient of growth is significantly positive, it indicates that analyst attention has a significant positive impact on enterprises. In this case, control variables are gradually introduced for further testing. To verify whether the mechanism of analyst attention affecting corporate financing constraints and growth is established.

There are two dependent variables utilized in the charts. The growth variable is a dependent variable that represents the rate of growth of the primary business of a specific enterprise. The SA index is a dependent variable that indicates the financial restrictions of the enterprise through Hadlock & Pierce's equation [4, 5]:

$$SA = 0.737 \times Asset + 0.043 \times Asset\ 2 - 0.04 \times Age \quad (2)$$

In this presented equation, the variable asset is presented by the enterprise's total capital Napierian logarithm and Age represents the number of years the company has become listed. In this scenario, the absolute value of the result is taken, and the financial restriction imposed on a company is indicated by how great the numerical value of the variable is. The two core-interpretation variables that are listed are analyst attention and report attention. Analyst attention is calculated by counting how many analysts (analyst groups) have traced and analyzed an enterprise's stock data, the unit is in groups rather than individual head count. Report attention is calculated through the number of reports written annually regarding an enterprise.

According to existing research, variables shown in Table 1 will be included in our model [6-10].

Table 1: Variables' definition.

Variable	Definition
Growth Rate	Rate of growth of the primary business of a enterprise.
SA index	indicates the financial restrictions of the enterprise through "Hadlock & Pierce's equation": SA= 0.737*Asset+0.043*Asset 2-0.04*Age The variable asset is presented by the enterprise's total capital Napierian logarithm and Age represents the number of years the company has become listed. In this scenario, the absolute value of the result is taken, and the financial restriction imposed on a company is indicated by how great the numerical value of the variable is.
Analyst Attention	Indicate the number of analysts (analyst groups) that have traced and analyzed an enterprise's stock data, note that the unit is in groups rather than individual head count.
Report Attention	the number of reports written annually regarding an enterprise.
Asset	Total asset at year-end
Debt	Total debt at year-end
Age	Number of years an enterprise has become listed
Top1	The shareholding ration of the largest shareholder. (%)
SOE	State-owning enterprises = 1, all other enterprises remain 0.
Foreign	Oversease-funded enterprises = 1, all other enterprises remain 0.
Board Size	The size of the board of directors.

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Table 1: (continued).

No. of Independent Director	Numbers of independent directors.
Salary, unit: 10000 Yuan	Salaries of senior executive.
ROA, %	Return on Assets.

2.3. Summary Statistics

This paper collected data from 24,913 enterprises. Generally speaking, the data collected show scedasticity. Extrapolating most of the data in Table 1 to a relatively large standard deviation, such as growth rate and total assets, shows the small representativeness of the mean in Table 1 and the significant differences in the data collected. However, there are also many extreme data at the high end, resulting in a positively skewed distribution where the mean is shifted higher. The data worthy of attention is the SA index, which shows a trend of normal distribution and central tendency; Has a slight standard deviation. The greater the absolute value of SA index, the more serious the financing constraint. Therefore, the average value of the SA index in Table 1 is 3.5, which reflects that most enterprises face relatively large financing constraints. According to Hadlock and Pierce's research, the correlation analysis between the absolute value of SA index and the logarithm of enterprise assets shows a positive correlation; the more significant the asset scale, the larger the absolute value of SA value. Thus, when the scale of assets is larger, the degree of financing constraints faced by enterprises will be lower.

Table 2: Summary statistics.

Variable	Obs	Mean	Std. Dev.	Min	Max
Growth	24913	43.9004	131.5683	-84.8169	1143.9837
SA index	24913	3.4658	.3103	2.3213	4.158
Analyst Attention	24913	7.1398	9.1545	0	41
Report Attention	24913	14.4726	21.3843	0	101
Age	24913	9.6283	7.308	0	25
Asset, in million	24913	13031.878	40842.523	186.5798	454342.39
Debt, in million	24913	7895.3257	28899.702	36.2757	336246.4
top1	24913	34.6534	14.9895	.29	89.99
SOE=1	24913	.3486	.4765	0	1
Foreign=1	24913	.0502	.2183	0	1
Board Size	24913	8.5771	1.6889	5	15
No. of Independent Director	24913	3.1702	.5547	2	5
Salary, in million	24913	3.8067	3.6831	.1577	24.1108
ROA	24913	.0411	.0676	-.3281	.2342

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3. Empirical Results and Analysis

3.1. Benchmark Regression

The benchmark regression table indicates the correlation between the percentage of effect analyst attention and report attention has on the growth of enterprises. Lists 1 and 2 of the table provide data for analyst attention while lists 3 and 4 provide data for report attention. After examining the R-squared values of the lists, lists 2 and 4 include a sufficient amount ubt of data required for a more accurate result. It can be seen from the results of benchmark regression estimation that analyst attention has a significant positive impact on the growth of enterprises. The "***" labeled next to the numbers represents the level of significance of this data, "***" means that this data holds high levels of significance, collected from 1% of the enterprises. In Column (1), the coefficient concerned by analysts is 4.6319, which is significant at 1%. In order to avoid the influence of omitted variables, the coefficient is 2.8535 after adding control variables in column (2). The results show that, on average, if the number of analysts concerned increases by 1%, the enterprise's main business revenue growth rate increases by 2.85%, and the coefficient is significant at the 1% level. Similarly, a 1% increase in research attention leads to a 2.49% increase in the main business revenue growth rate, with a significant coefficient at the 1% level. The above results show that analyst attention can improve the growth of enterprises. The Age value and the Age-sq value is reciprocal indicating that the number of years that an enterprise has been listed portrays a opposite U, meaning that being two young and two old both results in a declining growth rate.

Table 3: Benchmark regression.

	(1)	(2)	(3)	(4)
	OLS	OLS	OLS	OLS
VARIABLES	Growth	Growth	Growth	Growth
Ln Analyst Attention	4.6319***	2.8535***		
	(0.6993)	(0.9005)		
Ln Report Attention			3.7591***	2.4950***
			(0.5653)	(0.7353)
Age		1.4446***		1.4823***
		(0.4414)		(0.4414)
Age-sq		-0.0341*		-0.0356*
		(0.0187)		(0.0188)
Ln asset		-15.6616***		-15.5723***
		(2.3215)		(2.3184)
Ln debt		12.1617***		12.1776***
		(1.6764)		(1.6768)
top1		0.0399		0.0395
		(0.0683)		(0.0682)

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Table 3: (continued).

SOE=1		2.7045		2.5594
		(2.5295)		(2.5326)
Foreign=1		-6.5792*		-6.6665*
		(3.6176)		(3.6149)
Board Size		0.1748		0.1715
		(0.7202)		(0.7202)
No. of Independent Director		-1.1978		-1.2073
		(2.1014)		(2.1014)
Ln salary		-9.9805***		-9.9218***
		(1.7186)		(1.7166)
ROA		133.9160***		135.4252***
		(18.1783)		(18.2555)
Constant	65.8227***	284.0662***	65.4353***	281.1012***
	(8.7771)	(27.9252)	(8.7592)	(27.9595)
Observations	24,913	24,913	24,913	24,913
R-squared	0.1204	0.1283	0.1205	0.1284
Data	Unbalanced	Unbalanced	Unbalanced	Unbalanced
Industry Effect	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes

3.2. Heterogeneity Analysis

The heterogeneity analysis provides a thorough analysis on the difference of the extent of change analyst attention and report attention has on small enterprises and bigger enterprises. Dummy means that the Total assets for the year are 1 if they are below the 50 quantile, or else it would be 0. Therefore, starting with the value of dummy, List 1 and 3 indicates the size of the enterprise being smaller than the enterprises presented in lists 2 and 4. Now looking at where the Dummy # is integrated in to the Attention values. It could be seen that for lists 1 and 2, that focused on analyst attention, analyst attention has a significantly greater impact on the smaller enterprises, resulting in a 10.72% growth, while the larger enterprise only experiences a growth of 0.36%. The coefficient of the interaction term is significantly positive, indicating that analysts' attention has a greater impact on the enterprise's growth. A similar scenario occurs for report attention, where the growth of smaller enterprises was 8.89% and the greater enterprise only experienced a growth of 0.11%. This table indicates that the attention paid to enterprises of different sizes have a different effect on the growth of these enterprises.

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Table 4: Heterogeneity analysis.

	(1)	(2)	(3)	(4)
	OLS	OLS	OLS	OLS
VARIABLES	Growth	Growth	Growth	Growth
Ln Analyst Attention	0.4917***	0.2549***		
	(0.0347)	(0.0410)		
Dummy	-0.6944***	-0.0692	-0.6761**	-0.0622
	(0.2669)	(0.2670)	(0.2661)	(0.2661)
Ln Report Attention			0.3882***	0.2090***
			(0.0279)	(0.0332)
Dummy # Ln Analyst Attention	0.1072***	0.0036***		
	(0.0061)	(0.0005)		
Dummy # Ln Report Attention			0.0889***	0.0011***
			(0.0039)	(0.0003)
Constant				
Observations	24,913	24,913	24,913	24,913
R-squared	0.1205	0.1284	0.1205	0.1284
Date	Unbalanced	Unbalanced	Unbalanced	Unbalanced
Control	No	Yes	No	Yes
Year Dummy	Yes	Yes	Yes	Yes
industry Effect	Yes	Yes	Yes	Yes

3.3. Robustness Analysis

This table is simply an indication that more data has been added to the chart as the chart has changed from OLS to Panel FE. Meaning that the data that is used now comes from a panel where more aspects are taken into account. Another increase in the authenticity of the data is that the data has now became balanced, meaning that the enterprises that are observed in different years now remain constant. The results that are generated remains consistent meaning that the research results are robust and stable.

Table 5: Robustness test.

	(1)	(2)	(3)	(4)
	Panel FE	Panel FE	Panel FE	Panel FE
VARIABLES	Growth	Growth	Growth	Growth
Ln Analyst Attention	2.9421***	3.1138***		
	(0.9286)	(1.0702)		
Ln Report Attention			2.3624***	2.6547***
			(0.7593)	(0.8852)

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Table 5: (continued).

Constant	65.6769***	254.3666***	65.3373***	252.0185***
	(11.5073)	(40.7833)	(11.4783)	(40.8852)
Observations	24,913	24,913	24,913	24,913
Number of id	3,676	3,676	3,676	3,676
Data	Balanced	Balanced	Balanced	Balanced
Control	No	Yes	No	Yes
Industry Effect	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes

3.4. Mechanism Test

Through Mechanism analysis, it shows that analyst attention can alleviate the financing constraints faced by enterprises. In the investigate of corporate financing constraints, the variables of analyst attention and report attention was firstly introduced. If the SA index is significantly negative, it indicates that the enterprise has financing constraints. In this case, control variables are gradually introduced. After the introduction of control variables, the SA index is still significantly negative, and the absolute value of the original SA index becomes smaller and still significant. It shows that the financing constraints of the company can be fully explained by the analyst's attention and the report's attention.

Table 6: Mechanism test.

	(1)	(2)	(3)	(4)
	OLS	OLS	OLS	OLS
VARIABLES	SA index	SA index	SA index	SA index
Ln Analyst Attention	-0.0361***	-0.0063***		
	(0.0017)	(0.0007)		
Ln Report Attention			-0.0259***	-0.0024***
			(0.0013)	(0.0005)
Constant	3.2860***	3.5025***	3.2759***	3.5046***
	(0.0210)	(0.0348)	(0.0211)	(0.0347)
Observations	24,913	24,913	24,913	24,913
R-squared	0.1666	0.8896	0.1632	0.8896
Date	Unbalanced	Unbalanced	Unbalanced	Unbalanced
Control	No	Yes	No	Yes
Year Dummy	Yes	Yes	Yes	Yes
industry Effect	Yes	Yes	Yes	Yes

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4. Conclusion

In this investigation introduces what role analysts play in society, and then introduces two different analysts (Investment Analysts and Securities Analysts).The research data and analysis for the stock named Shanghai and Shenzhen A shares ranging from the year 2011 to 2019 provided in the essay are based on information that is provided by the CSMAR - China Stock Market & Accounting Research Database. The aim was to assess Whether the company's financing constraints can be explained by analyst attention and reporting attention. This article collected data from 24,913 businesses. The data of interest is the SA index, which is normally distributed and has a central tendency. There is also a lot of extreme data at the high end, resulting in a positively skewed distribution with the mean moving higher. Research finds that analyst focus has a significant impact on smaller businesses. The company's financing constraints can be explained by analyst attention and reporting attention. Ultimately, the point of this paper is to study the importance of analysts to companies. In the future, there will be more and more understanding and demand for analysts in the development of enterprises.

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