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Expectation gap, Corporate Social Donation and Innovation Investment

-- An Empirical Study Based on China's A-share Manufacturing Listed Companies

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Abstract

The results show that: on the whole, enterprises with continuous expectation gap will significantly reduce innovation investment, reduce the enthusiasm of enterprises to fulfill social responsibility and reduce corporate social donation; Further research shows that corporate social donation acts as a partial intermediary variable in the role of the persistence of expectation gap on enterprise innovation investment. According to the research conclusion, this paper attempts to put forward more rational and practical suggestions for enterprises from the perspective of external governance of corporate social responsibility, improve the innovation level of enterprises, and then improve their own competitiveness and viability, so as to alleviate the pressure of enterprise transformation and performance.

Keywords

Expected drop persistence; Corporate social donations; Innovation investment.

1. INTRODUCTION

With the continuous development of the global economy, innovation has gradually become a symbol of the level of economic development of various countries. At present, China is in a new stage of economic transformation, and the economic growth model is changing from factor driven to innovation driven. In this critical period of moving towards an innovative country, technological innovation has become an important link in the national economic development. Although the state strongly supports enterprises to carry out innovation activities, the innovation driving advantages of many traditional manufacturing industries have not been established, and the innovation ability is far from meeting the escalating consumer demand and high-quality demand for economic and social development. Many manufacturing enterprises are still facing considerable transformation pressure and performance failure to meet expectations (Li Xi et al., 2018). How to find a way out in the performance dilemma and improve the competitiveness and development power of enterprises is still the key problem that must be solved in the period of economic transformation. As the main body of technological innovation, enterprises can increase their competitive advantage by improving innovation efficiency. At the same time, it is very important for the sustainable development of the country (Cohen et al., 1990; Wang Jing et al., 2016).

In order to improve the R & D and innovation ability of Chinese enterprises, scholars further study the influencing factors of enterprise innovation investment and find that the business expectation gap is an important factor affecting enterprises' innovative activities. Business expectation gap refers to the difference between actual performance and expected performance.

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It is generally believed that when the actual performance of the enterprise is higher than the expected performance level, the enterprise will "think about safety" (Zhang Yuanfei et al., 2013), will not carry out high-risk innovation behavior and tend to conservative strategies. When the actual performance of the enterprise does not meet the expectations, it will lead the enterprise to carry out "problem search" and change the original strategy, More likely to take risk-taking behavior (Miller et al., 2004; Shimizu et al., 2007; Liu Jianguo, 2017), so as to improve performance. At the same time, many scholars hold the opposite view. According to the threat rigidity theory, Li Xiaoxiang et al. (2013) empirically found that the greater the expectation gap, the lower the willingness of enterprises to make venture capital. Wang Jing et al. (2016) conducted an empirical analysis on Chinese listed companies and found that when the actual performance of the company is lower than the business expectation, managers tend to reduce R & D investment. Some scholars also found that risk averse and self-interest managers improve short-term profitability by reducing R & D expenditure or strategic adjustment under the performance pressure of the capital market (Zhang et al., 2010; gentry et al., 2013). However, different situational factors will affect the cognition and judgment of enterprise managers, and then lead to the difference of business expectation gap on enterprise innovation decision-making. Therefore, many scholars consider various contingency factors and try to further clarify the impact mechanism of enterprises' innovation investment, such as redundant resources (he Xiaogang et al., 2016b; Tyler and caner, 2016), organizational governance (LIM, 2015; CHO et al., 2016; Chrisman and Patel, 2012), affiliation (Chen Zhijun et al., 2018) Institutional environment (he Xiaogang et al., 2016b) and capital market (Wang Jing et al., 2014). However, compared with internal factors, the research literature related to the regulation of external environmental factors is still relatively few, and the influence channel of the relationship between the two needs to be further explored.

In recent years, with the rapid development of China's economy, problems such as enterprise integrity, fake and shoddy products, destruction of ecological environment and abuse of resources are also emerging, which makes corporate social responsibility increasingly become the focus of attention of all sectors of society. The extensive economic development mode and the short-term behavior of enterprises with economic profit as the main goal seriously ignore the cost of social responsibility, which makes the imbalance between economic development and social development increasingly prominent (Xie Haiyang et al., 2021). In order to promote enterprises to improve their social responsibility performance, the Chinese government has successively issued a series of policies and regulations, such as the General Administration of quality supervision, inspection and quarantine The National Standardization Management Committee has officially approved and issued three national standards (GB / T 36000-2015 guide to social responsibility, GB / T 36001-2015 guide to the preparation of social responsibility reports and GB / T 36002-2015 guide to the classification of social responsibility performance) with the number of "36000" as the series, standardizing corporate social responsibility at the national level, However, there is still a big gap between the overall situation of corporate social responsibility and the expectations of the public. *** As an important way for enterprises to increase social influence and public prestige, corporate social responsibility plays a vital role in the long-term development of enterprises.

Therefore, in this context, this paper studies whether the role of innovation investment in enterprises facing performance difficulties is "inhibition" or "improvement"? It is of great significance to explore the intermediary role of corporate social responsibility. Therefore, this paper takes the factor of corporate social responsibility into account the impact mechanism of corporate performance dilemma on innovation investment, and explores its role.

ISSN: 2472-3703 DOI: 10.6911/WSRJ.202203_8(3).0046

2. METHODOLOGY

2.1. Analysis on the Relationship between Expectation gap and Innovation Investment

At present, there are still some disputes about the impact of expectation gap on enterprise innovation investment. Some scholars believe that expectation gap will make enterprise decision makers conservative, less carry out innovation or change behavior, reduce or transfer innovation expenditure, help to improve the performance of other objectives, and pay more attention to the improvement of internal governance mechanism and management system, In order to improve the performance of enterprises, they will pay more attention to the improvement of internal management system and governance mechanism (Wang Lei, 2020). For example, Wiseman and Bromiley (1996) found that among enterprises with declining performance, the lower the performance, the lower the enterprise innovation level. Shimizu (2007) believes that when the enterprise's loss is further expanded, stakeholders will put more pressure and managers will be more inclined to avoid future losses, that is, avoid risks and implement conservative strategies. Audia and Greve (2006) also found that the lower the performance is, the more conservative the decision-makers are, and the lower the expansion degree of the enterprise is. Wang Jing et al. (2016) found that when the actual performance of the company is lower than the business expectation, managers tend to reduce R & D investment. Most of them explore the relationship between them based on threat rigidity theory, principal-agent theory and information asymmetry.

Threat rigidity theory holds that the inducement of negative emotions, such as psychological pressure and anxiety, is often threat and adversity. In terms of information processing, individuals, teams and organizations often only pay attention to a certain amount of information, while resources are more concerned and focus on conservative reserves. Managers usually make some decisions based on past experience and practices, but it often doesn't happen to take the initiative to conduct large-scale search outside the scope of the organization or from a long distance. Barr et al. (1992) proposed that one of the reasons for the emergence of such rigidity may also be that policymakers believe that the difficult time will pass and the good time will come. Therefore, they usually choose to continue to adhere to the current strategy rather than adjust or even change. Therefore, when the actual performance of the enterprise is lower than the expected performance, enterprise managers tend to give up long-term planning, use idle resources to pay operating expenses, and reduce venture capital or activities. Therefore, according to the threat rigidity theory, when the enterprise is in the situation of expectation gap, low-risk decision-making is a good choice for managers, such as reducing R & D investment.

The principal-agent theory holds that the separation of the management right and ownership of the enterprise easily leads to the difference between the objectives of the agent and the principal. When the actual performance of the enterprise is lower than the expected performance, that is, when it is in the expected gap, the market performance does not meet the expectation, which will reduce the trust of the principal to the agent. If the risk-taking behavior brings a further gap, the possibility of their resignation or dismissal will increase (Li Xi et al., 2015). Managers are more likely to avoid risk in order to maintain their own reputation and interests. Innovation activities have the characteristics of strong professionalism, uncertainty and high risk. The growth cycle of performance brought by R & D is generally long, that is, the increase of enterprise R & D capital investment can not immediately improve enterprise performance, but the increase of current expenses just reduces the performance of enterprise performance. For managers, those expenditure items that will not have an immediate impact on the enterprise's performance will be reduced as much as possible, and reducing R & D expenditure is one of the best choices for them to improve the enterprise's short-term performance. For the client, increasing R & D capital investment can promote the improvement of the internal innovation driving force of the enterprise (Yang Songling et al., 2019), so as to

ISSN: 2472-3703 DOI: 10.6911/WSRJ.202203_8(3).0046

increase the internal value of the enterprise. However, considering that their own interests will not be lost, risk averse managers tend to take steady and conservative decisions.

Generally speaking, innovative R & D has the characteristics of high risk and great uncertainty, which is considered as risky behavior. When the expectation falls, the enterprise has a certain motivation to carry out innovation and change, and then increase R & D investment in order to obtain returns in the next stage. However, under the condition of asymmetric information, the enterprise performance fails to meet the expectations, transmitting the signal of poor management to the outside world, resulting in the decline of the company's stock price, and stakeholders are skeptical about the management of the enterprise, It is more difficult to obtain social resources, which affects the implementation of the company's innovation and change behavior (Chen Zhijun et al., 2018). In the case of information asymmetry, in order to meet market expectations, managers prefer to reduce R & D investment and other activities with high return uncertainty in order to improve the company's performance in the short term.

He Xiaogang et al. (2013) believe that managers will be hindered from trying to change when they face poor performance. Li Xiaoxiang et al. (2013) empirically found that the greater the expectation gap, the lower the willingness of enterprises to make venture capital. Chen et al. (2007) believed that extremely poor performance is easy to trigger the threat of bankruptcy, which makes the enterprise conservative. However, kuusela et al. (2017) controlled the bankruptcy threat and new redundancy factors, and this negative impact on R & D investment is still stable. Because increasing innovation means high risk, high investment and long return cycle, it is because of these characteristics that managers tend to adopt stable and conservative strategies, have the psychology of risk aversion, and lack the motivation and confidence to implement technological innovation. It is urgent for enterprises in a continuous gap to improve their performance. At this time, increasing innovation is not the best choice, and managers tend to respond conservatively. Therefore, referring to the measurement of sustainability by Li Xi et al. (2018), the following assumptions are put forward:

H1 The Persistence of Expectation Gap inhibits Enterprise Innovation Investment.

2.2. Analysis of the Relationship between the Expectation Gap and the Corporate Social Donation

Factor resources are essential for the survival and development of enterprises. Generally speaking, enterprises can obtain these important resources from internal self-sufficiency or external environment. According to the resource dependence theory, all the resource elements required by the organization cannot be produced internally. Therefore, in order to survive and sustainable development, the organization must obtain the necessary resources from the outside, and the key resources related to the survival and development of the organization are often in the hands of key stakeholders (Wang Jing et al., 2014). For example, shareholders can provide support in enterprise decision-making Consumers buy new products launched by enterprises, provide consumption support, creditors provide loans to enterprises, the government can provide tax incentives for enterprises and other policy support. As David et al. (2013) found, corporate social responsibility can meet the needs of stakeholders and establish close contact with external resource providers.

However, as one of many strategic behaviors, the difference between corporate social responsibility and strategic behaviors such as M & A and R & D is that it is more often used as a tool to adjust the conflict with stakeholders, and can not directly improve corporate performance. As a way to fulfill corporate social responsibility, corporate charitable donation belongs to corporate assets, especially for enterprises in a continuous gap. The improvement of performance is imminent. Increasing charitable donation further grabs shareholder wealth (Brammer et al., 2008). It is difficult to improve corporate performance in the short term. When the enterprise is in the expectation gap, in order to maintain the image of the enterprise and

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continue to obtain the support of stakeholders, managers will still carry out social responsibility activities in order to offset the negative factors caused by poor performance through the release of good information. However, the performance of social responsibility by enterprises under the continuous gap may be more easily interpreted as "hypocrisy" (Lu Yue et al., 2018), Even by performing more social responsibilities, impression management may not be able to maintain the corporate image. In addition, the necessary economic capacity and financial status are the premise for enterprises to implement social responsibility (Wen Wen et al., 2017).

According to the basic theory of enterprise attention, the distribution of managers' attention to different problems determines the behavior of enterprises. The topics and answers that managers pay attention to are the basis for managers' decision-making. Therefore, when the enterprise is in a continuous expectation gap, the stakeholders of the enterprise will exert greater pressure on the managers, and the managers will pay more attention to the improvement of performance. In order to avoid being regarded as "hypocrisy", they prefer to use limited resources to improve performance, so as to reduce the expenditure on social responsibility. However, most of the past literature studies directly measure the expectation gap by the gap between actual performance and expectation level. A single short expectation gap performance stimulus signal may not be consistent and stable, and the relationship between expectation gap and corporate social responsibility needs to be further verified. Therefore, based on the above inference, this paper puts forward the following assumptions:

H2 The Persistence of Expectation Gap reduces Corporate Social Donation

2.3. Analysis on the Relationship between Expectation Gap, Corporate Social Responsibility and Innovation Investment

As the main body of technological innovation, enterprises can increase their competitive advantage by improving innovation efficiency. At the same time, it is very important for the sustainable development of the country. When an enterprise obtains production factor resources from stakeholders, its business decisions must also consider their needs and interests. Stakeholders usually include employees, creditors, suppliers, the government, customers and the public. Employees can provide human resources for the enterprise, creditors can provide loans for the enterprise, suppliers can reduce the selling price and ensure the quality of goods Society can bring moral capital to enterprises, improve corporate image, and the government can provide tax incentives and other policy support for enterprises.

First, enterprises that fulfill their social responsibilities will also pay more attention to the improvement, renewal and upgrading of product quality, continue to transform the process or product innovation, and further promote enterprises to increase R & D and innovation expenditure. Secondly, the implementation of corporate social responsibility can promote enterprises to pay more attention to improving the satisfaction of consumers and protecting the rights and interests of shareholders, customers and other stakeholders. It will also make enterprises pay more attention to the improvement of their internal value, in order to achieve long-term sustainable development, increase R & D expenses, and bear more social responsibility, which can effectively reduce agency costs, So as to promote R & D and innovation expenditure. Xueming Luo et al. (2015) pointed out that CSR activities can not only meet the needs of stakeholders, but also enable them to establish a broader and deeper relationship network with stakeholders, and promote the sharing and exchange of valuable external knowledge among stakeholders. The influx of external knowledge complements internal knowledge and stimulates innovation. Siegel and McWilliams (2000) empirically tested the positive relationship between corporate social responsibility and R & D investment. Yang Bai et al. (2016) and Zhu Yongming et al. (2019) also reached similar conclusions.

ISSN: 2472-3703 DOI: 10.6911/WSRJ.202203_8(3).0046

Generally speaking, market participants are more willing to allocate scarce capital resources to enterprises with better corporate social responsibility, and enterprises with better corporate social responsibility are more likely to disclose their social responsibility activities to the market, and corporate social responsibility reporting can improve the transparency of the impact of enterprises and their governance structure on society and the environment, Thus, the information asymmetry between enterprises and investors is reduced, which leads to the reduction of capital constraints and agency costs (Cheng et al., 2014). Compared with the enterprises that disclose social responsibility reports, the financing constraints of undisclosed enterprises are significantly higher (Li Shu et al., 2014).

When the enterprise is in a continuous gap, the stakeholders of the enterprise will exert greater pressure on the managers, and the enterprise managers will pay more attention to performance improvement. In order to avoid being regarded as "hypocrisy", they are more inclined to use limited resources to improve performance, so as to reduce the expenditure on social responsibility. According to the existing research, reducing the performance of corporate social responsibility will lead to higher financing constraints, which will reduce the degree of enterprise innovation. In this case, the negative impact of expectation gap on enterprise innovation investment is partly transmitted by corporate social responsibility. Therefore, based on the above inference, this paper puts forward a hypothese:

H3 Corporate social donation acts as an intermediary variable in the effect of the Persistence of Expectation Gap on Enterprise Innovation Investment.

3. RESULTS AND DISCUSSION

3.1. Descriptive Statistics of the Main Variables

Table 1. Descriptive statistics of the main variables

Variables	observed	average	standard	minimum	maximum
RD	4709	2.334	1.587	0.031	8.848
LDUR B	4709	0.928	0.887	0	3.354
LNDONATE	4709	12.726	1.933	6.217	16.933
SIZE	4709	22.299	1.05	19.981	25.135
Z	4709	6.765	8.542	0.561	67.382
LN_DSIZE	4709	2.242	0.165	1.792	2.708
ID	4709	0.374	0.053	0.333	0.571
LDUR G	4709	0.23	0.523	0	2.558
SS	4709	1158217.5	988494.76	221359.81	5743899.5
LEV	4709	0.392	0.177	0.046	0.816
AGE	4709	17.839	5.253	4.324	30.94
PROPORTION	4709	25.945	23.408	0.005	80.956
MO	4709	0.076	0.139	0	0.648

Table 2 lists the descriptive statistical results for each variable in this study.The average innovation investment of listed manufacturing companies in the sample range is 2.334, indicating that the average proportion of the annual R & D expenses invested in the sample enterprises accounts for 2.334% of the total assets.The mean value of the absolute value is 0.928 and the standard deviation is 0.887, indicating that there is a large difference in the persistence of the expected gap faced by different enterprises.The average logarithm value of corporate social donation expenditure is 12.726, and the standard deviation is 1.933, which also indicates that the social donation expenditure of different enterprises also varies in different time periods.

ISSN: 2472-3703 DOI: 10.6911/WSRJ.202203_8(3).0046

3.2. Expectation Gap and Innovation Investment

This paper adds control variables such as financial operation status and corporate governance status, and makes different degrees of control year and industry fixed effect for panel regression.All observable control variables are added in column (1), and columns (2) and (3) include year fixed effects and industry fixed effects, respectively.It is found that the persistence of the expected gap of the core explanatory variable in the following three regression results showed a negative effect on the innovation input of the explained variable in all the three regression results, and all rejected the null hypothesis at a significance level above 1% significance, indicating that the regression had good stability.The results show that enterprises with a continuous gap are urgent to improve their performance, and managers prefer to reduce the activities with high return uncertainty, such as R & D investment, in order to improve the company's performance in the short term.Thus, hypothesis 1 is verified.

Table 2. Expectation gap and innovation investment

	(1)	(2)	(3)
VARIABLES	RD	RD	RD
LDUR_B	-0.3137***	-0.3283***	-0.7183***
	(0.035)	(0.035)	(0.042)
SIZE	-0.2879***	-0.3289***	-0.6869***
	(0.039)	(0.039)	(0.044)
Z	0.0188***	0.0245***	0.0171***
	(0.003)	(0.003)	(0.003)
LN_DSIZE	-0.0650	0.0916	0.1425
	(0.171)	(0.171)	(0.154)
ID	0.6406	0.7189	0.2430
	(0.513)	(0.508)	(0.457)
LDUR_G	0.0745	0.1099*	0.4493***
	(0.060)	(0.060)	(0.059)
SS	-0.0000***	-0.0000***	-0.0000**
	(0.000)	(0.000)	(0.000)
LEV	0.2472	0.4862***	-0.3455**
	(0.179)	(0.179)	(0.163)
AGE	-0.0082*	-0.0236***	-0.0206***
	(0.004)	(0.005)	(0.004)
PROPORTION	-0.0026**	0.0013	0.0016
	(0.001)	(0.001)	(0.001)
MO	0.8708***	0.9629***	1.0926***
	(0.182)	(0.181)	(0.162)
Constant	8.9439***	7.5401***	15.9348***
	(0.955)	(1.818)	(1.772)
Year	NO	YES	YES
Industry	NO	NO	YES
N	4,709	4,709	4,709
R-squared	0.049	0.073	0.280

Note: * * *, * *, and * indicate the significance of 1%, 5%, and 10%, respectively, the same below.

3.3. The Gap Between Expectations and Corporate and Social Donation

Similarly, Table 3 examines the relationship between the persistence of the expected gap and corporate social donation under different degrees of inclusion of observable control variables and the fixed effects of industry and years.All three regression results showed that the

ISSN: 2472-3703 DOI: 10.6911/WSRJ.202203_8(3).0046

continuous expansion of the expected gap reduced corporate social donation behavior, and that all were significantly negatively correlated at 1%.The analysis shows that when enterprises are in a continuous gap, enterprise managers prefer to invest the only resources in improving the performance level, thus reducing the investment in social responsibility. Hypothesis 2 is validated.

Table 3. The gap between expectations and corporate and social donation

VARIABLES	(1) LNDONATE	(2) LNDONATE	(3) LNDONATE
LDUR_B	-0.2657***	-0.2643***	-0.2664***
	(0.039)	(0.039)	(0.052)
SIZE	0.6587***	0.6644***	0.6093***
	(0.043)	(0.044)	(0.055)
Z	0.0070*	0.0105***	0.0081**
	(0.004)	(0.004)	(0.004)
LN_DSIZE	0.3392*	0.3345*	0.2236
	(0.191)	(0.192)	(0.190)
ID	0.3414	0.3009	0.8204
	(0.572)	(0.572)	(0.562)
LDUR_G	0.3623***	0.3573***	0.3723***
	(0.067)	(0.067)	(0.072)
SS	-0.0000*	-0.0000**	-0.0000**
	(0.000)	(0.000)	(0.000)
LEV	-1.2972***	-1.2093***	-0.7713***
	(0.200)	(0.202)	(0.201)
AGE	0.0052	0.0028	-0.0056
	(0.005)	(0.005)	(0.005)
PROPORTION	-0.0047***	-0.0043***	-0.0058***
	(0.001)	(0.001)	(0.001)
MO	0.3405*	0.3325	0.2837
	(0.203)	(0.204)	(0.199)
Constant	-2.1647**	-0.9748	0.6775
	(1.065)	(2.048)	(2.178)
Year	NO	YES	YES
Industry	NO	NO	YES
N	4,709	4,709	4,709
R-squared	0.203	0.207	0.267

3.4. Intermediation Analysis of Expectation Gap, Corporate and Social Donation and Innovation Investment

Combined with the mediation effect test process, according to the regression of Table 4, even if the continuity of expected gap and corporate social donation in the same model, the whole sample condition of expected gap of innovation investment above 1% of significance level is negative relationship, corporate social donation to innovation in more than 1% of the significance level is positive relationship.At the same time, combined with table 2, table 3 and table 4, enterprise continue in expected drop for enterprise innovation regression coefficient absolute value, after adding corporate social donation variables slightly, but does not change the substantial relationship between variables, so according to Wen Zhonglin (2004) intermediary effect test ideas, can determine: continuous expectation drop, managers will produce risk avoidance psychology, and reduce enterprise innovation, and corporate social donation as part of the intermediary role.

ISSN: 2472-3703 DOI: 10.6911/WSRJ.202203_8(3).0046

Table 4. Intermediation analysis of expectation gap, corporate and social donation and innovation investment

VARIABLES	(1) RD	(2) RD	(3) RD
LNDONATE	0.0444***	0.0391***	0.0954***
	(0.013)	(0.013)	(0.012)
LDUR_B	-0.3019***	-0.3180***	-0.6929***
	(0.035)	(0.035)	(0.042)
SIZE	-0.3171***	-0.3549***	-0.7450***
	(0.040)	(0.040)	(0.045)
Z	0.0185***	0.0241***	0.0163***
	(0.003)	(0.003)	(0.003)
LN_DSIZE	-0.0800	0.0785	0.1212
	(0.171)	(0.171)	(0.153)
ID	0.6255	0.7071	0.1648
	(0.513)	(0.507)	(0.454)
LDUR_G	0.0584	0.0959	0.4138***
	(0.060)	(0.060)	(0.059)
SS	-0.0000***	-0.0000***	-0.0000**
	(0.000)	(0.000)	(0.000)
LEV	0.3047*	0.5335***	-0.2720*
	(0.180)	(0.180)	(0.162)
AGE	-0.0085*	-0.0237***	-0.0201***
	(0.004)	(0.005)	(0.004)
PROPORTION	-0.0024**	0.0015	0.0021**
	(0.001)	(0.001)	(0.001)
MO	0.8557***	0.9499***	1.0655***
	(0.182)	(0.181)	(0.161)
Constant	9.0399***	7.5783***	15.8702***
	(0.954)	(1.816)	(1.760)
Year	NO	YES	YES
Industry	NO	NO	YES
N	4,709	4,709	4,709
R-squared	0.051	0.074	0.290

3.5. Robust Test

3.5.1 Replace the explanatory variable

The robustness test was conducted by replacing the measurement method of the expected level, that is, the replacement method uses the average measurement method of other enterprises in the industry other than the enterprise itself.Table 5 below measures the median expectation level of all enterprises in the baseline industry, obtains the persistence of the expected gap through the measurement method mentioned above, and conducts the regression test again.As can be seen from Table 5, the expected difference between corporate social donation and innovation investment have more than 1% of the significant negative impact, the intermediary effect test process also shows that corporate social donation in the process of expected gap continuity and innovation investment transmission can act as part of the intermediary mechanism, the empirical conclusion robustness is established in this paper.

ISSN: 2472-3703 DOI: 10.6911/WSRJ.202203_8(3).0046

Table 5. Robustness test of the desired level measurement

VARIABLES	(1) RD	(2) LNDONATE	(3) RD
LDUR_B	-0.7720***	-0.2653***	-0.7479***
	(0.056)	(0.069)	(0.056)
LNDONATE			0.0908***
			(0.012)
SIZE	-0.7786***	0.5978***	-0.8328***
	(0.046)	(0.056)	(0.046)
Z	0.0165***	0.0086**	0.0157***
	(0.003)	(0.004)	(0.003)
LN_DSIZE	0.0814	0.2071	0.0626
	(0.153)	(0.190)	(0.152)
ID	0.1498	0.8324	0.0743
	(0.454)	(0.561)	(0.451)
LDUR_G	0.7197***	0.3557***	0.6875***
	(0.048)	(0.060)	(0.048)
SS	-0.0000***	-0.0000*	-0.0000**
	(0.000)	(0.000)	(0.000)
LEV	-0.3449**	-0.7782***	-0.2743*
	(0.162)	(0.201)	(0.161)
AGE	-0.0225***	-0.0061	-0.0219***
	(0.004)	(0.005)	(0.004)
PROPORTION	0.0017*	-0.0059***	0.0023**
	(0.001)	(0.001)	(0.001)
MO	1.1000***	0.2840	1.0742***
	(0.161)	(0.199)	(0.160)
Constant	18.1590***	-0.5414	18.2081***
	(1.144)	(1.415)	(1.136)
Year	YES	YES	YES
Industry	YES	YES	YES
N	4,736	4,736	4,736
R-squared	0.286	0.266	0.295

3.5.1 Time period return

Test of the robustness of the time-period regression.Considering that the time selection of samples may also produce errors, Table 6 reanalyzes the panel data in different years from 2011-2016,2012-2017 and 2013-2018. As can be seen from the table below, the results of the intermediary test regression empirical analysis are not significantly different. Under different annual intervals, corporate social donation can still act as part of the intermediary mechanism in the transmission process of expected gap continuity and innovation investment, indicating that the research conclusion is still reliable.

Table 6. Test of the robustness of time-wise regressions

	2011-2016 (year)			2012-2017(year)			2013-2018(year)		
VARIABLES	(1) RD	(2) LNDONATE	(3) RD	(4) RD	(5) LNDONATE	(6) RD	(7) RD	(8) LNDONATE	(9) RD
LDUR_B	-0.7057***	-0.2337***	-0.6828***	-0.7056***	-0.2871***	-0.6809***	-0.7082***	-0.2640***	-0.6861***
	(0.059)	(0.079)	(0.059)	(0.051)	(0.067)	(0.051)	(0.046)	(0.058)	(0.046)
LNDONATE			0.0979***			0.0862***			0.0839***
			(0.016)			(0.014)			(0.013)
CONSTANT	14.6794***	0.9545	14.5860***	15.5324***	0.9880	15.4472***	16.3200***	-0.4817	16.3604***
	(2.097)	(2.806)	(2.080)	(1.309)	(1.731)	(1.301)	(1.171)	(1.487)	(1.164)
CONTROLS	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year	YES	YES	YES	YES	YES	YES	YES	YES	YES
Industry	YES	YES	YES	YES	YES	YES	YES	YES	YES
N	2,187	2,187	2,187	2,902	2,902	2,902	3,757	3,757	3,757
R-squared	0.280	0.247	0.292	0.275	0.254	0.285	0.272	0.262	0.281

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4. CONCLUSION

This paper tries to put expected performance feedback, corporate social donation and enterprise innovation investment in a unified framework, further comb the relationship between expected performance feedback and innovation investment, rich expected performance feedback for innovation investment impact channel, deeply explore the intermediary role of corporate social donation in it, therefore, the research in this paper may provide some literature in innovation investment and corporate external governance.

Based on the theory of threat rigidity, entrustment and agent, this paper takes the A-share manufacturing listed companies from 2010-2019, and draws the following conclusions from theoretical analysis and empirical research, and these conclusions are still stable after using some methods.First, it is urgent for enterprises in a continuous gap to improve their performance, and managers prefer to reduce the activities with high return uncertainty, such as research and development investment, in order to improve the company's performance in the short term.Second, when the enterprise performance is in a continuous expectation gap, the enterprise managers are more inclined to invest the only resources in improving the performance level, thus reducing the investment in social responsibility.Third, under the continuous expectation gap, managers will produce risk avoidance psychology, and thus reduce the innovation investment of enterprises, and corporate social donation acts as part of the intermediary role.

Based on the empirical results presented above in this paper, Make the following suggestions: First, To optimize the company structure, If making full use of idle resources, Cost reduction, etc, Establish a unique corporate culture, Make their employees feel a greater sense of belonging, Cultivate and strengthen employees' quality and skills, Improve work efficiency to improve enterprise performance; second, Attach great importance to the cultivation of corporate social responsibility consciousness, Create a good working atmosphere, Enterprises with a strong sense of social responsibility can promote enterprise research and development, Then the structure optimization and upgrading, Enterprise is an indispensable part of social development, When corporate goals are in line with social benefits, It is conducive to the long-term development of the enterprise, at the same time, To a certain extent, in fulfilling their social responsibility, enterprises can win the wide attention of the society and the high praise of the public, Thus to win a better social reputation, Access to more social resources, Also win more profits; third, Innovation environment provided by the state, Companies should seize the opportunities, Avoid rigid and rigid management, Implementation of Made in China 2025, For the majority of enterprises to spread out the blueprint for the future development of enterprises, With the rapid development of advanced technologies such as cloud computing, big data, artificial intelligence and more, Under the new normal of the economy, Return to the main business, Take technological innovation as the main driving force for development, Deep integration with high-tech, To ease the pressure of enterprise transformation and performance, Strengthen the competition and survival ability of enterprises themselves; fourth, The government should further promote the policy of enterprises to fulfill their social responsibilities, We will improve the reward and punishment mechanisms, Enterprises with a good sense of social responsibility shall be supported by tax reduction, preferential resources or other policy support, At the same time, for the enterprises in the continuous expectation gap, The state should focus on enterprises with development potential, Implement certain research and development subsidies for related enterprises, We will support innovative reform.

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