# Research on the Impact of Internal Control Quality on High-quality Development of Enterprises—A Moderated Mediation Model

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Abstract: High-quality development of the macro-economy cannot be achieved without the support of micro-enterprises. This paper sorts out the impact mechanism of internal control quality on the high-quality development of enterprises, and conducts empirical analysis and verification using the balanced panel data of China's Shanghai and Shenzhen A-share listed companies from 2013 to 2022 as the research sample. The results show that: internal control quality can significantly promote the high-quality development of enterprises and achieve it by promoting enterprise technological innovation; analyst attention can positively regulate the role of internal control quality in promoting the high-quality development of enterprises, and play the same role in the mediating effect. The conclusion can not only enrich the research on the relationship between internal control quality and high-quality development of enterprises, but also provide certain references for enterprises and governments to formulate corresponding strategies and policies.

Keywords: Internal control, High-quality corporate development, Technological innovation, Analyst attention.

#### 1. Introduction

The report of the 20th CPC National Congress emphasized that high-quality development is the primary task of building a modern socialist country in an all-round way. Macroeconomic development cannot be separated from the support of micro-enterprises. As the micro-foundation of a country's economy, enterprises are the largest organizational form of resource allocation and circulation, the main body of technological innovation, and the basic unit for promoting high-quality economic development. Only when enterprises show a high level of value creation can the overall economy achieve high-quality growth. Therefore, in the context of high-quality development in the new era, focusing on the micro level and promoting the reform of enterprise power can achieve high-quality economic development in my country.

When the two powers are separated, there is a conflict of interest between managers and shareholders. Existing research shows that internal control, as one of the means of corporate governance, can play its supervisory role, reduce the salary gap between management and ordinary employees [1], improve the quality of corporate accounting information [2], reduce agency costs, and ultimately enhance corporate value [3]. At the same time, within a certain level of internal control, internal control has a significant promoting effect on innovation input and innovation efficiency. Selecting appropriate internal control will be more conducive to the innovative development of enterprises and better support the high-quality development of China's economy [4]. There are many internal and external factors that affect the high-quality development of an enterprise. So can internal control have an impact on the quality of enterprise development? What is its impact mechanism? What impact does the company's external environment have on this?

In view of this, this paper first explores the direct effect of internal control quality on the high-quality development of enterprises, and analyzes the direct impact of internal control quality on the high-quality development of enterprises from

the two dimensions of property rights nature and whether it belongs to high-tech enterprises. Secondly, the mediating role of enterprise technological innovation is tested. Existing studies have shown that internal control can have an impact on enterprise technological innovation, and technological progress is the fundamental path to achieve high-quality development of enterprises. Technological innovation is the key to achieving technological progress [5], so technological innovation may play a mediating role in it. Finally, the external environment that analysts pay attention to is included in the analytical framework, and with the help of a moderated mediation effect model, its moderating role in the direct effect and the mediating effect is analyzed.

#### 2. Theoretical **Analysis** and Research **Hypothesis**

#### 2.1 Internal Control Quality and **High-quality Development of Enterprises**

High-quality enterprise development can be seen as a new state of reaching a higher level and being more competitive, transcending the traditional development model [6]; it also refers to a development state with faster growth, greater development potential, stronger innovation capabilities, and a higher concentration of talent and technology [7].

According to the theory of information asymmetry, when there is a conflict of interest, the party with information advantage may make a choice that is unfavorable to the party with information disadvantage for its own benefit, thus affecting the effective operation of the corporate governance system. As one of the internal governance means of an enterprise, the realization of its internal control objectives can improve organizational management efficiency, reduce cost losses, and ensure the information quality of financial reports [8]. At the same time, it can play its supervisory role, enabling management to allocate resources more effectively and improve investment efficiency [9]. In addition, effective internal control can improve the fulfillment of corporate

social responsibility [10]. The fulfillment of corporate social responsibility is of great significance to establishing corporate image, improving brand competitiveness, and promoting sustainable development of enterprises. It can provide important internal and external environment support for the quality of enterprise development, thereby promoting the improvement of enterprise development quality [11-12].

Based on this, this paper proposes the following hypothesis:

Hypothesis H1: When other conditions remain unchanged, the higher the quality of internal control, the more it can promote the high-quality development of the enterprise.

## 2.2 The Intermediary Role of Enterprise Technological Innovation

As a scientific and standardized system, internal control has an inherent attribute of focusing on processes and rules, which can strengthen mutual supervision between superiors and subordinates. However, it conflicts with innovation activities that require flexibility and creative space to a certain extent. At the same time, overly strict control behavior will place higher demands on employees to participate in internal control, thereby reducing employees' enthusiasm and innovation ability [13]. On the contrary, internal control can reduce communication barriers between departments of an enterprise and improve the innovation awareness of management, thereby establishing a good environment that is conducive to enterprise technological innovation [14]. At the same time, internal control can also promote enterprise technological innovation by increasing R&D investment, alleviating agency problems, and increasing cash holdings [15-16].

Innovation-driven development is the core driving force of economic growth. Technological innovation theory points out that enterprises are the main body of innovation. The high-quality development of enterprises is also bound to be driven by technological innovation. On the one hand, enterprises will adopt confidentiality when conducting innovation activities, and continuous innovation is more dependent on innovative talents, enterprise scale and resources [14]. Therefore, the innovation activities of enterprises themselves generally have high barriers, which are difficult for enterprises to imitate and copy. Technological innovation provides a strong guarantee for enterprises to gain competitive advantages [17] and promotes the development of enterprises. On the other hand, the results of technological innovation may improve the operating efficiency of enterprises, make investors optimistic about the future development of enterprises, and enhance the value of enterprises [18], thereby promoting the high-quality development of enterprises.

Based on the above analysis, this paper proposes the following hypothesis:

Hypothesis H 2: Enterprise technological innovation plays a mediating role between internal control quality and enterprise high-quality development.

#### 2.3 The Moderating Effect of Analyst Attention

Analyst attention plays a role in external supervision of enterprises to a certain extent. On the one hand, analysts will disclose the information of investigation and research analysis in the form of analytical reports [19], thereby conveying relevant information to investors and enterprise management, improving investors' supervision of management, reducing corporate violations [20] and improving governance [21]. At the same time, analysts' attention will also, to a certain extent, enable enterprises to restrain the behavior of senior management teams, realize the consequences of information asymmetry, and promote active communication and information sharing among various departments of the enterprise, thereby improving the level of internal control [22].

On the other hand, analysts can use research reports to convey information about companies to the capital market and reveal the investment decision-making behavior of management. This not only increases the supervision of small and medium shareholders on companies through the external environment, but also may attract the attention of competitors and strengthen competition among companies, thereby promoting companies to carry out innovation activities [23]. At the same time, analysts pay attention to the disclosure of internal information of companies, which can effectively alleviate the financing constraints caused by information asymmetry, enable companies to have more financial support [24], increase their R&D investment and carry out venture capital activities [25], and promote companies to carry out innovation activities [26], thereby promoting the high-quality development of companies.

Based on the above analysis, this paper proposes the following hypotheses:

Hypothesis H3: Analyst attention plays a moderating role between internal control quality and high-quality development of enterprises.

Hypothesis H4: Analyst attention has a moderating effect on the mediating effect of technological innovation between internal control quality and high-quality development of enterprises, and this moderating effect occurs in the previous and next paths.

#### 3. Research Design

#### 3.1 Sample Selection and Data Sources

A- share listed companies in Shanghai and Shenzhen from 2013 to 2022 as the research object, excludes special samples in the financial insurance industry, ST, \*ST and other non-normal listing status, deletes sample companies with missing values, and performs tail shrinking processing on the existing data at the level of 1% above and below. Finally, 9750 sample data are retained. The internal control quality data of listed companies mainly comes from the DIB database, other data comes from the CSMAR database, and the number of patent applications comes from the CNRDS database.

#### 3.2 Variable Definition

1) Explained variable: high-quality development of

enterprises (TFP). Total factor productivity is not only related to technological progress, but also reflects the knowledge level, management skills, institutional environment, etc. of material production [27]. Based on this, this paper selects the total factor productivity calculated under the LP method as a measure of the level of high-quality development of enterprises. The greater the total factor productivity, the better the quality of enterprise development.

- 2) Core explanatory variable: internal control quality (IC). Referring to existing research [8], the internal control index obtained from the Dibo database is used to measure the internal control level of enterprises. The larger the index, the higher the internal control level of the enterprise.
- 3) Intermediary variable: enterprise technological innovation (Patens). Referring to existing research [14], the sum of the number of patents applied for by listed companies in the year

is used to measure the enterprise technological innovation level. The larger the index, the higher the enterprise technological innovation level.

- 4) Moderating variable: Analyst attention (Analyst). Referring to existing studies [19-20], it is expressed by the number of analyst teams following the team in the current year. The larger the index is, the more attention the company receives from the outside world and the stronger the external supervision is.
- 5) Control variables: Referring to existing literature [28], this paper selects eight variables as control variables, including equity concentration (Top1), board size (Board), two-position combination (Partime), property rights nature (Soe), enterprise size (Size), profitability (Roa), debt repayment ability (Lev), and development ability (Growth). The specific meanings of each variable are shown in Table 1:

Table 1: Variable definition table

Variable Types	Variable Symbols	Variable Name	Variable Description
Explained variable	TFP	High-quality development of enterprises	Total factor productivity calculated by LP method
Explanatory variables	IC	Internal Control Quality	Logarithm of internal control index +1
Mediating variables	Patens	Enterprise technological innovation	The logarithm of the total number of patents applied for by listed companies + 1
Moderating variables	Analyst	Analyst attention	Logarithm of the number of teams followed by analysts + 1
	Top1	Equity Concentration	The largest shareholder's shareholding ratio
	Board	Board size	Number of board members
Control variables	Partime	Two jobs in one	Are the chairman and general manager the same person? 0: No; 1: Yes;
	Soe	Nature of property rights	0: non-state-owned enterprise, 1: state-owned enterprise;
	Size	Enterprise scale	Natural logarithm of total assets at the end of the year
	R oa	Profitability	Net profit margin of total assets = net profit / total asset balance
	Lev	Debt Solvency	Debt-to-asset ratio = total liabilities/total assets
	Growth	Development Capabilities	Annual operating income growth rate

#### 3.3 Model Construction

1) In order to test the direct impact of internal control quality on the high-quality development of enterprises, a benchmark regression model (1) is constructed to verify hypothesis H1.

$$TFP_{i,t} = \alpha_0 + \alpha_1 IC_{i,t} + \alpha_2 Controls_{i,t} + \sum Year + \sum Ind + \varepsilon_{i,t}$$
 (1)

Among them,  $TFP_{i,t}$  represents the total factor productivity of the i-th listed company in the t-th year,  $IC_{i,t}$  represents the internal control quality, and  $Controls_{i,t}$  is the corresponding control variable. This model controls for both time and industry fixed effects. If the coefficient  $\alpha_1$  is positive and significant, hypothesis H1 is verified.

2) Based on the research of Wen Zhonglin et al. [29], this paper constructs the mediation effect model (2) (3) to verify hypothesis H2 in order to examine the impact mechanism of internal control quality on the high-quality development of enterprises.

$$Patens_{i,t} = \beta_0 + \beta_1 IC_{i,t} + \beta_2 Controls_{i,t} + \sum Year + \sum Ind + \varepsilon_{i,t}$$
 (2)

$$TFP_{i,t} = \gamma_0 + \gamma_1 IC_{i,t} + \gamma_2 Patens_{i,t} + \gamma_3 Controls_{i,t} + \sum Year + \sum Ind + \varepsilon_{i,t}$$
(3)

Among them, Patens<sub>i,t</sub> represents the total number of patents applied for by the i- th listed company in the t- th year. If the coefficient  $\beta_1$  is significant, and the signs and directions of

 $\beta_1 * \gamma_2$  and  $\gamma_1$  are consistent, hypothesis H2 is verified.

3) In order to examine the moderating role of analyst attention in the impact of internal control quality on the high-quality development of enterprises and the mediating effect, referring to the research of Wen Zhonglin and Ye Baojuan [30], models (4), (5), and (6) are constructed to verify hypothesis H3 and hypothesis H4.

$$TFP_{i,t} = a_0 + a_1 IC_{i,t} + a_2 Analyst_{i,t} + a_3 IC_{i,t} * Analyst_{i,t} + a_4 Controls_{i,t} + \sum Year + \sum Ind + \varepsilon_{i,t}$$
 (4)

$$\begin{aligned} Patens_{i,t} &= b_0 + b_1 I C_{i,t} + b_2 Analyst_{i,t} + b_3 I C_{i,t} * \\ Analyst_{i,t} &+ b_4 Controls_{i,t} + \sum Year + \sum Ind + \varepsilon_{i,t} \end{aligned} \tag{5}$$

$$TFP_{i,t} = c_0 + c_1 IC_{i,t} + c_2 Analyst_{i,t} + c_3 IC_{i,t} * Analyst_{i,t} + c_4 Patens_{i,t} + c_5 Patens_{i,t} * Analyst_{i,t} + c_6 Controls_{i,t} + \sum Year + \sum Ind + \varepsilon_{i,t}$$
 (6)

Among them, Analyst<sub>i,t</sub> represents the moderating variable analyst attention. The first step requires verifying the moderating role of Analyst in the main effect. If  $a_3$  in model (4) is significant, hypothesis H3 is verified, indicating that the direct effect is moderated. The second step is to use models (5) and (6) to verify whether the mediating effect is affected by the moderating variables. If the coefficients  $b_3$  and  $c_4$  are significant, it means that analyst attention can regulate the first half of the path of internal control quality affecting corporate technological innovation; if the coefficients  $b_1$  and  $c_5$  are significant, it means that the second half of the path of technological innovation affecting corporate high-quality

development is regulated by analyst attention. If  $b_3$  and  $c_5$  are significant, it means that the moderator variable can moderate the anterior and posterior paths simultaneously, verifying hypothesis H4.

#### 4. Empirical Analysis

#### 4.1 Descriptive Statistics

Table 2 shows the descriptive statistical results of the main variables. As can be seen from Table 2, the maximum value of the enterprise high-quality development measurement index is 18.58, and the minimum value is 13.5, indicating that the development of listed companies in China is relatively balanced. The mean value of internal control quality is 6.46, and the median value is 6.5, both close to the maximum value of 6.75, indicating that the overall distribution of internal control levels of different enterprises in China is relatively uniform, but its minimum value is 0, indicating that some listed companies in China still have major internal control defects. The mean value of the total number of patent applications is 1.94, the minimum value of this indicator is 0, and the maximum value is 7.03. Overall, it shows that the overall level of technological innovation of Chinese enterprises is relatively low. The mean value of the analyst attention index is 1.53, the minimum value is 0, and the maximum value is 4.33, indicating that the degree of attention paid to analysts by various companies in China is different. In addition, the multicollinearity test of the variables selected in this article found that the VIF value is in the range of 1.04~2.02, with a mean of 1.36, which indicates that there is no serious collinearity problem between the variables.

Table 2: Descriptive Statistics

Table 2. Descriptive Statistics						
variable	Sampl	average	Standard	Mini	Medi	Maximu
variable	e size	value	Deviation	mum	an	m
TFP	9750	15.7343	0.996	13.50	15.64	18.58
IC	9750	6.4630	0.339	0.00	6.50	6.75
Patens	9750	1.9366	1.785	0.00	1.95	7.03
Analyst	9750	1.5302	1.206	0.00	1.61	4.33
Top1	9750	33.8737	14,331	8.22	32.03	75.78
Board	9750	8.6697	1.694	4.00	9.00	18.00
Part time	9750	0.2302	0.421	0.00	0.00	1.00
Soe	9750	0.4110	0.492	0.00	0.00	1.00
Size	9750	22.6308	1.262	20.01	22.47	26.78
Roa	9750	0.0393	0.053	-0.25	0.03	0.21
Lev	9750	0.4350	0.195	0.05	0.43	0.89
Growth	9750	0.1212	0.203	-0.30	0.08	1.66

#### 4.2 Benchmark Regression Results

It can be seen from column (1) of Table 3 that when only the industry and year fixed effects are controlled, the regression coefficient between the independent variable internal control quality (IC) and the dependent variable high-quality enterprise development (TFP) is 0.2689, and is significant at the 1% level, indicating that the improvement of internal control level is conducive to the high-quality development of enterprises, preliminarily verifying hypothesis H1. From the results shown in column (2), we can see that after adding control variables and controlling for industry and year at the same time, the regression coefficient between internal control quality and high-quality development of enterprises is 0.0674, which is also significant at the 1% level. For every 1 unit increase in internal control quality, the high-quality

development of an enterprise will increase by 0.0674 %. Internal control can still significantly promote the high-quality development of an enterprise, further verifying hypothesis H1.

**Table 3:** Benchmark regression results

variable	(1)	(2)
	TFP	TFP
IC	0.2689 ***	0.0674 ***
	(0.0496)	(0.0158)
Control variables	no	yes
Time fixed effects	yes	yes
Industry fixed effects	yes	yes
_cons	13.9962 ***	2.6303 ***
	(0.3210)	(0.1498)
N	9750	9750
adj. R <sup>2</sup>	0.291	0.787

Note: The standard error is in brackets; \* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01, the same below.

#### 4.3 Endogeneity Test

Taking into account the endogeneity problems that may be caused by mutual causality and omitted variables, this paper adopts the instrumental variable method for testing. Taking into account the standards and conditions for selecting instrumental variables, this paper uses the mean of the internal control index (mean\_internal control) calculated by excluding the enterprise itself in the same year, industry and jurisdiction as the instrumental variable. The test results are shown in Figure 4. The internal control quality coefficients in columns (1) and (2) are both significantly positive at the 1% level, which is basically consistent with the results of the aforementioned benchmark regression analysis.

Table 4: Endogeneity test results

variable	(1)	(2)
	IC	TFP_LP
mean_internal control	0.0013***	
	(0.0002)	
IC		0.3100***
		(0.0688)
Control variables	yes	yes
Time fixed effects	yes	yes
Industry fixed effects	yes	yes
Kleibergen - Paap rk LM statistic	59.45	
Kleibergen -Paap Wald rk F statistic	69.90	
N	9750	9750
adj. R-sq		0.692
F	69.9044	2.5e+03

#### 4.4 Robustness Test

The robustness test results are shown in Table 5 below. In Table 5, column (1) replaces the explained variable TFP measured by LP method with TFP under OP method, and column (2) IC 1 is the replaced explanatory variable. When other conditions remain unchanged, the coefficients of internal control quality index are 0.0674 and 0.0789, respectively, which are significant at the 1% level. Column (3) shows the research sample of listed companies in the past five years. Without changing all variables, the internal control quality coefficient is 0.1054, which is still significant at the 1% level. Columns (4) and (5) are explanatory variables with a lag of one and two periods, which verify whether the impact of internal control quality is robust and the medium- and long-term impact of internal control on the high-quality development of enterprises. It can be seen from the table that the L.IC and L2.IC coefficients are 0.0774 and 0.0596

respectively, and the impact coefficient of internal control quality is still positive and significant at the 1% level, indicating that internal control quality has a medium- and long-term positive impact on the high-quality development of enterprises. However, the decline in the size of these two coefficients indicates that the positive promoting effect of internal control quality will slowly decrease over time.

Table 5: Robustness test results

	140	ie et ressur	thess test i	CBuits	
variable	(1)	(2)	(3)	(4)	(5)
	TFP_OP	TFP	TFP	TFP	TFP
IC	0.0674**		0.1054**		
IC	*		*		
	(0.0158)		(0.0226)		
IC 1		0.0789**			
IC 1		*			
		(0.0072)			
L.IC				0.0774**	
L.iC				*	
				(0.0178)	
L2.IC					0.0596**
22.10					*
					(0.0166)
Control					
variable	yes	yes	yes	yes	yes
S					
Time					
fixed	yes	yes	yes	yes	yes
effects					
Industry					
fixed	yes	yes	yes	yes	yes
effects	2.6293**	2.7869**	2.5235**	2.6396**	2.8199**
_cons	2.0293*** *	2.7809***	2.3233*** *	2.0390*** *	2.8199*** *
	(0.1497)	(0.1155)	(0.2094)	(0.1611)	(0.1606)
N	9750	9750	4875	8775	7800
adj.R2	0.788	0.791	0.774	0.784	0.780
auj.K2	0.766	0.771	0.774	0.764	0.760

#### 4.5 Heterogeneity Analysis

This paper classifies the research samples according to the nature of ownership and explores the impact of the internal control quality of enterprises of different natures on their high-quality development. The empirical results are shown in columns (1) and (2) of Table 6. The IC coefficient of state-owned enterprises is 0.0787, which is significant only at the 10% level. For non-state-owned enterprises, the coefficient is 0.0637 and is significant at the 1% level. This shows that the promoting effect of internal control is more obvious in non-state-owned enterprises. The main reason may be that state-owned enterprises generally make development strategies from a more macro perspective, while private enterprises pay more attention to their own operations and development. Therefore, they will strengthen internal governance, reduce behaviors that are detrimental to corporate interests, and improve the quality of corporate development.

Innovation is the primary driving force for development and the strategic support for building a modern economic system. This paper divides the research sample into high-tech enterprises and non-high-tech enterprises for regression testing. The results are shown in columns (3) and (4) of Table 6. The results show that in high-tech enterprises, the role of internal control quality in promoting high-quality development of enterprises is more obvious. This may be because the management of high-tech enterprises pays more attention to internal governance to ensure the input and output of innovation, which comprehensively improves their

development quality.

**Table 6:** Heterogeneity analysis results

	Is it a state-owned enterprise?		Is it a high-tech enterprise?	
variable	(1)	(2)	(3)	(4)
	yes	no	yes	no
	TFP	TFP	TFP	TFP
IC	0.0787 *	0.0637 ***	0.0918 ***	0.0490 **
	(0.0416)	(0.0153)	(0.0253)	(0.0194)
Control variables	yes	yes	yes	yes
Time fixed effects	yes	yes	yes	yes
Industry fixed effects	yes	yes	yes	yes
_cons	2.9008 ***	2.4947 ***	2.6235 ***	2.6791 ***
	(0.2965)	(0.2011)	(0.2150)	(0.2106)
N	4006	5743	4833	4914
adj. R <sup>2</sup>	0.813	0.759	0.809	0.776

### 5. Mechanism Analysis

#### **5.1** Analysis of Intermediary Mechanisms

The regression results of the direct and indirect impact of internal control quality on the high-quality development of enterprises are shown in Table 7 below. As can be seen from column (1), the coefficient of IC is 0.0674, which is significant at the 1% level, verifying the direct effect that internal control quality can promote the high-quality development of enterprises. The IC coefficient of column (2) is 0.0897, and the Patens coefficient of column (3) is 0.0120, both of which are significantly positive at the 1% level, indicating that the quality of internal control can promote the quality of enterprise development by promoting technological innovation.

**Table 7:** Regression results of mediation mechanism

variable	(1)	(2)	(3)
	TFP_LP	Patens	TFP_LP
IC	0.0674***	0.0897**	0.0663***
	(0.0158)	(0.0397)	(0.0158)
Patens			0.0120***
			(0.0033)
Control variables	yes	yes	yes
Time fixed effects	yes	yes	yes
Industry fixed effects	yes	yes	yes
_cons	2.6303***	-7.1099***	2.7154***
	(0.1498)	(0.4386)	(0.1524)
N	9750	9750	9750
adj.R2	0.787	0.382	0.788

#### 5.2 Test of Moderated Mediation Effect

This paper incorporates analyst attention into the regression to test its moderating effect. The regression results are shown in Table 8. The coefficient of column (1) IC\*Analyst is 0.0577, which is significant at the 1% level, indicating that analyst attention can directly regulate the role of internal control quality in promoting the high-quality development of enterprises. Hypothesis H3 is verified. The results in columns (2) and (3) show that IC\*Analyst is significant at the 10% level and the Patens coefficient is significant at the 1% level, indicating that the impact of internal control quality on the first half of the path of enterprise technological innovation is moderated by analyst attention. Similarly, the coefficients of

IC in column (2) and the interaction term Patens\*Analyst in column (3) are significant at the 5% and 1% levels, respectively, indicating that the second half of the path of the mediating effect of technological innovation is moderated by analyst attention. The coefficients of column (2) IC \* Analyst and column (3) Patens \* Analyst are significant, indicating that the pre- and post-mediation paths are moderated, and the mediating effect is (0.1203 + 0.079 Analyst) \* (0.0101 - 0.0065 Analyst), verifying hypothesis H4.

**Table 8:** Results of moderated mediation effect

variable	(1)	(2)	(3)
	TFP_LP	Patens	TFP_LP
IC	0.0984***	0.1203**	0.0988***
	(0.0238)	(0.0510)	(0.0241)
Analyst	-0.3275**	-0.2768	-0.3311**
•	(0.1290)	(0.2817)	(0.1307)
IC * Analyst	0.0577***	0.0790*	0.0600***
	(0.0199)	(0.0434)	(0.0202)
Patens			0.0101***
Patens * Analyst			(0.0034) -0.0065***
			(0.0021)
Control variables	yes	yes	yes
Time fixed effects	yes	yes	yes
Industry fixed effects	yes	yes	yes
_cons	3.5453***	-3.8684***	3.5821***
	(0.1929)	(0.5245)	(0.1936)
N	9750	9750	9750
adj.R2	0.789	0.395	0.790

#### 6. Research Conclusion

#### **6.1 Research Conclusions**

Based on the panel data of A-share listed companies in Shanghai and Shenzhen from 2013 to 2022, this paper conducts theoretical analysis and empirical testing on the relationship and mechanism of influence between internal control quality and high-quality development of enterprises, and obtains the following main conclusions:

- 1) The quality of internal control can promote the high-quality development of enterprises. After conducting robustness tests, the results still hold true.
- 2) Enterprise technological innovation plays a mediating role in the relationship between internal control quality and enterprise high-quality development.
- 3) Analyst attention can directly regulate the impact of internal control quality on the high-quality development of enterprises, and can also regulate the second half of the mediating effect of technological innovation on the high-quality development of enterprises.

The conclusions of this article enrich the theoretical research on internal control quality and high-quality development of enterprises, and to a certain extent provide a reference for enterprises to formulate development strategies, improve development quality and governments to formulate relevant policies.

## **6.2 Research Implications**

1) Enterprises should optimize the internal management environment, attach importance to the improvement and

implementation of internal control systems, and improve the quality of internal control. As a relatively effective means of internal governance of enterprises, internal control should give full play to its due functions and supervise the efficient operation and communication of various departments of the enterprise. At the same time, high-quality internal control should be carried out throughout the entire development process of the enterprise, so as to facilitate the stable, sustainable and high-quality development of the enterprise.

2) High-quality economic development is inseparable from high-quality development of enterprises. The government should attach importance to the construction and improvement of laws and regulations on enterprise management standards and internal control systems. At the same time, it should clarify the penalties for corporate violations, increase the cost of mistakes for enterprises, and encourage relevant professionals to supervise enterprises, so that enterprises will consciously abide by laws and regulations, improve the effectiveness of internal control supervision, and promote high-quality development of micro-enterprises, thereby improving the quality of macroeconomic development.

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