The Inconsistency of Financial Reports and Internal Control Audit Opinions and Corporate Dual Innovation

Xiang Xiao, Ziqin Yu[*] and Yuxian Jiang

School of Economics and Management, Beijing Jiaotong University, China, 100044
[*]Corresponding author. Email: 19113067@bjtu.edu.cn

ABSTRACT

Based on the core role of innovation in China's overall development, here in we investigated the relationship between the inconsistency of financial reports and internal control audit opinions (hereinafter referred to as IFRICAO) and dual innovation by taking Chinese companies which were listed on the main board from 2010 to 2018. We provide direct evidence that IFRICAO are negatively correlated with exploratory innovation and exploitative innovation. Compared with the exploitative innovation, the negative correlation between IFRICAO and exploratory innovation is more significantly. To summarize, we enrich the research on the influencing factors of innovation in theory, and provide empirical evidence for the information value of audit opinions on national innovation in practice.

Keywords: Financial report audit, Internal control audit, "Non-clean" audit opinion, Exploratory innovation, Exploitative innovation.

1. INTRODUCTION

China's "14th Five-Year" national development plan emphasizes the need to adhere to the status of innovation in the overall situation of the country's modern construction and form a strategic orientation for an innovative country. As the main part of China's innovation and development, the technological innovation of companies is closely related to the completion of China's innovation goals. However, the 2020 Global Innovation Index report shows that China's innovation input sub-index is ranked 26th, and there is still a gap with the top countries. Therefore, insufficient innovation input is still an important factor restricting China's innovation and development. How to improve corporate technological innovation has become Problems to be solved.

Theoretical and practical results demonstrate that audit opinions provided important references for corporate investors, and investors' judgments and responses based on different types of audit opinions will be significantly different [1]. "Clean" audit opinion refers to the standard unqualified audit opinion; the unqualified plus explanation paragraph, qualified opinion, rejected opinion or negative opinion are all "non-clean" audit opinions [2]. In any case, companies that receive inconsistent financial reports and internal control audit opinions indicate that the auditor believes that there is a problem or defect in one of the corporate financial reports or internal control, so it is very meaningful to study whether it will affect innovation. In particular, dual innovation represents different types of innovation activities of companies, including exploratory innovation and exploitative innovation. Therefore, studying the relationship between the inconsistency of financial reports and internal control audit opinion (hereinafter referred to as IFRICAO) and the dual innovation of companies has certain value. From the perspective of information inconsistency, this article studies whether IFRICAO will have an impact on company dual innovation, and whether the effect of the impact will be different.

2. THEORETICAL ANALYSIS AND HYPOTHESIS

The clue consistency theory [3] believes that the degree of consistency of multiple information cues will affect the judgment. When a set of clues is consistent, the subsequent judgment will be strengthened. Karsten Asbahr et al. (2017) believe that the consistency of information will affect the perception of confidence, and inconsistent information will weaken investor confidence [4]. Based on the clue consistency theory, when the auditor has issued a "clean" opinion on the financial report and internal control, it will improve the reliability of the accounting information perceived by investors, thereby enhancing investors' confidence in the company. Contrary to this, the inconsistency between the financial report and the internal control audit opinion means that the auditor issues a "non-clean" opinion on the financial report and the internal control issues a "clean" opinion, or the auditor issues a "clean" opinion on the financial report and the internal control issues a "non-clean" opinion. The inconsistency between the two kinds of information will lead to the decrease of investors' trust in the accounting information of the company, thus leading to the loss of investors' investment. Due to the lack of support from a large number of investors for R&D funds, companies that receive inconsistent financial reports and internal control audit opinions often face shortages of R&D funds and high financing costs, making it difficult to increase innovation activities.

Drawing on the concept of dual innovation, company technological innovation can be divided into two types: exploitative innovation and exploratory innovation [5]. The purpose of exploitative innovation is to strengthen the existing knowledge base of companies and transform and upgrade the original technological innovation of companies. However, exploratory innovation needs to broaden the knowledge base of companies and find new technological innovation by breaking away from the original technological innovation foundation [6]. Compared with the two, exploratory innovation R&D costs and risks are higher; while exploitative technology innovation R&D risks and costs are relatively low, and have more R&D foundations [7]. Therefore, because exploratory innovation requires more R&D costs and capital investment, it is more difficult for companies that receive non-consistent financial reports and internal control audit opinions to carry out exploratory innovation activities. Based on the above analysis, this article proposes hypotheses H1a, H1b and H2:

H1a: IFRICAO is negatively correlated with exploratory innovation

H1b: IFRICAO is negatively correlated with exploitative innovation

H2: Compared with exploitative innovation, the negative correlation between IFRICAO and exploratory innovation is more significant.

3. RESEARCH DESIGN

3.1. Samples and Data Sources

In terms of sample selection, this article takes A-share listed companies in Shanghai and Shenzhen stock exchanges as research samples, and selects 2010-2018 as sample period. In terms of variable data sources, R&D and audit related data from the CSMAR database, the company finance related data from the WIND database. After preliminary samples are obtained, the following treatments are carried out in this article :(1) The listed companies in the financial industry are excluded; (2) The listed companies delisted during the sample removal period; (3) Samples with missing variables are eliminated; (4) In order to control the influence of extreme values, all continuous variables were shrunk at the level of 1% and 99%. Finally, 14,099 observations were obtained.

3.2. Empirical Model and Variable Definition

Based on the above theoretical analysis and research hypothesis, this article constructs the following empirical analysis model:

$$Inn\_et/Inn\_ut_{i,t} = \alpha_0 + \alpha_1 Nop1/Nop2_{i,t} + \alpha \sum Controls_{i,t} + \sum Year + \sum Ind + \varepsilon_{i,t} \quad (1)$$

In model (1), Inn_et is exploratory innovation, which is measured by the ratio of the capitalized amount of company R&D investment to R&D investment; Inn_ut is exploitative innovation, which is measured by the ratio of the amount of company R&D investment expense to R&D investment; the inconsistency between the financial report and the internal control audit opinion is divided into two types: the company's "non-clean" financial report audit opinion and the "clean" internal control audit opinion, or the "clean" financial report audit opinion and the "non-clean" internal control audit opinion. In this case, Nop1 is if there are both "non-clean" financial report audit opinions and "clean" internal control audit opinions, the value is 1, otherwise it is 0; Nop2 is if there are both "clean" financial report audit opinions and "non-clean" internal control audit opinions, the value is 1, otherwise it is 0; Controls is the control variable, $\sum Year$ and $\sum Ind$ indicate that the model controls the fixed effects of the industry and the year.

This article selects the following control variables: company size (Size) is measured by the natural logarithm of the total assets of the company, the size of company fixed assets (Ppe) is measured by the ratio of the company's fixed assets to total assets, asset-liability ratio (Lev), net cash flow (Cfo), return on assets (Roa),

nature of property rights (Own), listing age (Age), and control the effects of year (Year) and industry (Ind).

4. EMPIRICAL RESULTS

4.1. Descriptive Statistics

The descriptive statistics of all variables are shown in Table 1. Among them, the mean value of Inn_et is 0.051, the standard deviation is 0.156, while the mean value of Inn_ut is 0.303, and the standard deviation is 0.144, indicating that the sample companies are more engaged in exploitative innovation; the mean value of Nop1 is 0.019, the standard deviation is 0.138; the mean value of Nop2 is 0.023, the standard deviation is 0.149, which indicates that the financial reports and internal control audit opinions of different companies vary greatly. Other variables also have obvious differences between different companies, indicating that from an overall perspective, the research sample has a certain degree of differentiation.

4.2. Correlation Analysis

The unlisted results show that Nop1 and Nop2 are significantly positively correlated with Inn_et and Inn_ut at the 1% level respectively, which initially supports the hypothesis H1a and H1b, that is, IFRICAO is negatively correlated with exploratory innovation and exploitative innovation. The correlation coefficient between most variables is less than 0.3, and the results of the multicollinearity test indicate that the variance inflation factor (VIF) 3.64 is less than the empirical critical value of 10, indicating that there is no serious multicollinearity problem between the variables.

4.3. Regression Results

In order to hypothesize H1a and H1b, use model (1) to test, as shown in Table 2. It can be seen that in columns (1) and (3), the regression coefficients of Nop1 and Nop2 are both significantly negative at the 1% level, indicating that no matter what kind of IFRICAO, the exploratory innovation will be inhibited.; in columns (2) and (4), the regression coefficients of Nop1 and Nop2 are both significantly negative at the 5% level, indicating that no matter what kind of IFRICAO, it will inhibit exploitative innovation. Assume that H1a and H1b are verified. Further analysis, in columns (1) and (2), columns (3) and (4), the significance of the regression coefficients of the two IFRICAO on exploratory innovation is higher than the regression coefficient on exploitative innovation. The result shows that exploratory innovation has higher R&D risks and R&D costs than exploitative innovation. Companies that receive inconsistent opinions on financial reports and internal control audits are less willing to take big risks and spend more time on exploratory innovation.

5. ROBUSTNESS TEST

This article adopts two methods of deleting selected samples and replacing variable measurement to enhance the robustness of the article: First, Since the main board market enforced the disclosure of internal control audit reports in August 2012, and the sample period of this article is 2010-2018, in order to solve the problem that companies may only voluntarily disclose "clean" internal control audit reports before 2012. For the sample bias problem, this article further narrows the sample period to 2013-2018. The regression results are mostly consistent with the main test, and the research conclusions of this article are still valid. Second, this article measures exploratory innovation by the logarithm of the number of invention patents applied for by companies in the current year plus one; exploitative innovation is measured by the logarithm of the number of utility model and design patents applied by companies that year plus one. After replacing the variable measurement method, the research conclusions are still robust.

6. RESEARCH CONCLUSIONS AND SUGGESTIONS

In conclusion, we investigate the relationship between IFRICAO and dual innovation by taking Chinese companies which were listed on the main board from 2010 to 2018. Our results indicate that IFRICAO are negatively correlated with exploratory innovation and exploitative innovation, while the negative correlation between IFRICAO and exploratory innovation is more significant than compare with exploitative innovation.

This article proposes the following suggestions: First, investors should not only pay attention to the audit opinions on "non-clean " financial reports, but also pay attention to the audit opinions on "non-clean" internal control, so as to improve risk awareness, make scientific decisions, protect their own interests, and become rational value investors. Second, the company should constantly improve the construction of internal control system, take long-term development as the goal, and enhance technological innovation activities to achieve the comprehensive competitiveness of the company. Thirdly, the country should deepen the system reform and strengthen the internal control audit supervision mechanism. Since exploratory innovation is closer to the original innovation, it is crucial to China's development, so it is more important to guide companies to carry out the enthusiasm of internal control audit and encourage companies to attach importance to the construction of internal control system.

Table 1. Descriptive statistics of core variables

Variable name	Observations	Mean	Standard deviation	Minimum	Median	maximum
Inn_et	14099	0.051	0.156	0	0.163	0.859
Inn_ut	14099	0.303	0.144	0	0.231	1
Nop1	14099	0.019	0.138	0	0	1
Nop2	14099	0.023	0.149	0	0	1

Table 2. Regression result

	(1)	(2)	(3)	(4)
VARIABLES	Inn_et	Inn_ut	Inn_et	Inn_ut
Nop1	-0.095***	-0.028**		
	(-4.35)	(-2.54)		
Nop2			-0.077***	-0.025**
			(-3.13)	(-2.25)
Size	-0.039***	0.015***	-0.040***	0.015***
	(-12.17)	(11.36)	(-12.60)	(11.49)
Ppe	-0.059**	-0.042***	-0.059**	-0.043***
	(-2.37)	(-4.29)	(-2.37)	(-4.32)
Lev	-0.020	0.010	-0.007	0.009
	(-0.03)	(1.22)	(-0.31)	(1.17)
Cfo	0.134**	-0.052***	0.137***	-0.051***
	(2.55)	(-2.90)	(2.60)	(-2.84)
Roa	0.141*	0.101***	0.167**	0.097***
	(1.89)	(4.15)	(2.24)	(4.00)
Own	-0.104***	0.009***	-0.105***	0.010***
	(-13.16)	(3.25)	(-13.20)	(3.28)
Age	0.001	-0.002	0.001	-0.002
	(1.51)	(-0.90)	(1.34)	(-0.99)
Constant	-0.382***	-0.095***	-0.387***	-0.095***
	(-10.79)	(-6.90)	(-10.98)	(-6.94)
Year	YES	YES	YES	YES
Ind	YES	YES	YES	YES
Observations	14,099	14,099	14,099	14,099
R-squared	0.147	0.104	0.148	0.105

AUTHORS' CONTRIBUTIONS

Xiao Xiang undertook the theoretical guidance of this article, Yu Ziqin was responsible for the construction and writing of this article, and Jiang Yuxian revised and improved the article.

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