

Smoke-free Laws, Accounting Firm Size and Audit Quality

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Abstract

Audit quality is not only affected by the characteristics of clients, auditors and the employment relationship between them, but also affected by the promulgation and implementation of relevant laws. However, there are few studies on this aspect, and few articles have carried out in-depth research on this aspect. Based on A sample of A-share listed companies in Shanghai and Shenzhen stock markets from 1996 to 2020, this paper examines the impact of Smoke-free Laws on audit quality in China's audit market. The results show that smoking ban in the workplace has a positive effect on audit quality, and further research shows that this positive effect is more obvious when listed companies choose audit services provided by the Big Four accounting firms. This paper expands the audit related research, combined with the development stage of The Audit market in China, provides some references for firms to formulate organizational strategies and regulators to evaluate the industry situation, and also puts forward some suggestions for the healthy development of the audit market.

Keywords

Smoke-free Laws; Big Four Accounting Firms; Audit Quality; Accrued Profit.

1. Introduction

In May 2017, according to fact Sheet 339 issued by the World Health Organization (WHO), there are more than 1 billion smokers in the world, and more than 7 million people die from tobacco every year, of which more than 6 million are due to direct tobacco use and about 890,000 are non-smokers exposed to second-hand smoke. China, the world's largest producer and consumer of tobacco, has more than 300 million smokers, accounting for a third of the world's smokers, and the trend is growing. As one of the signatories of the Framework Convention on Tobacco Control, China is facing a very serious situation in tobacco control. Since the 1990s, many provinces and cities in China have successively promulgated and implemented tobacco control laws forbidding smoking in public places. Although these laws have been proved to be effective in limiting cigarette consumption and reducing the exposure rate of second-hand smoke, their research on audit practice has not been fully explored. This paper examines the impact of Smoke-free Laws from the perspective of knowledge innovation, and verifies the positive correlation between Smoke-free Laws and audit work quality, as well as the effect of firm size on the positive correlation between the two.

Independent audit report will connect the internal and external investors of the company, known as an important "indicator" to reflect the financial operation of the company, but also to ensure the security of funds "gatekeeper". How to improve audit quality has always been the focus of discussion by scholars and practitioners, which reflects the effectiveness and quality of audit work. Watts and Zimmerman (1983) defined audit quality as the joint probability that auditors find errors or frauds in clients' financial reports and report them externally. Thereafter, a large number of studies have observed factors affecting auditors' motivation and ability to provide high-quality audit services based on the characteristics of individual firms and clients themselves. At present, the research on the influencing factors of audit quality is also mature. However, few studies have focused on the link between Smoke-free Laws and audit quality, and

empirically, the introduction of Smoke-free Laws at different times and in different places creates natural control groups and enables us to study their impact on audit quality in different frameworks (see, Such as Bertrand and Mullainathan(2003)).

Tobacco burning more than 7000 kinds of chemical components, including the harmful material such as nicotine, carbon monoxide and aromatic amine, these harmful material can inhibit human respiratory epithelium cilia movement, destruction of epithelial cell tissue structure, make the cilia fall off, epithelial cell necrosis, resulting in acute or chronic inflammation of the respiratory tract, the respiratory resistance increased, Eventually, lung cancer, chronic obstructive pulmonary disease and other diseases will occur (JOHANSSONST, TANQ, HOLSTR (2013)), so smoking will have a certain impact on human health. When smoking, the increase of nicotine content in the blood will stimulate the secretion of dose-dependent neurotransmitters and produce neuroendocrine effects, which will affect the physiological functions of patients (ZhangS,LiY,XuX et al. (2015)), thus bringing certain negative effects to the work of auditors. And secondhand smoke, can make the serum alveolar surfactant protein D (hereinafter referred to as the SPD, is a kind of used for the evaluation of the airway inflammation caused by the smokers lung injury index) levels, damaged lung function, lung cancer, asthma in adults, cardiovascular disease, chronic obstructive pulmonary disease (copd) and other risk (Du Limei He Shijie, JingWeiGe, Zhang Xiuyi (2019)). Audit as a personnel intensive work, a large audit project often rely on team cooperation to complete. In the practical environment, the team of audit staff more for women, and working with no secondhand smoke exposure of healthy environment, compared to women's financial workers exposed to secondhand smoke in the work environment of passive secondhand tobacco smoke female financial workers average 1.27 times higher risk of lung cancer (d, hu yan-ni zhao, Wang Xi, etc. (2016)). Women who smoke also have an increased risk of menstrual irregularities, infertility, breast cancer and other diseases compared with non-smoking women (Health Expo (2017)). These health problems will seriously affect the physical health of auditors, resulting in more frequent leave, longer sick leave, earlier retirement, etc., will affect the work efficiency, and then reduce the quality of audit work.

Of course, Smoke-free Laws can also have a negative impact on audit quality. From a neuropharmacological perspective, nicotine and caffeine can enhance creativity by improving attention, memory, and learning (Levin,McClernon and Rezvani(2006), Schweizer(2006)). In addition, smoking produces temporary positive emotions that enhance self-confidence, optimism and creativity (Daubman and Nowicki(1987), Seo,Barrett and Bartunek(2004)). In the process of continuous high-intensity audit work, auditors often need to stay up late to work overtime. Smoking may bring them a sense of excitement, invigorate their spirits and improve their efficiency so as to work better. These findings support the conclusion that Smoke-free laws have a negative impact on audit quality.

Based on this, this paper selects the a-share listed companies in Shanghai and Shenzhen stock markets from 1996 to 2020 as samples and conducts A normative study using DID model to investigate the impact of the adoption and implementation of Smoke-free Laws on audit quality in China's audit market. The contributions of this paper are as follows: firstly, it provides some evidence that a healthy working environment is an important factor to improve audit quality in practical work; Secondly, this paper takes the smoking ban as the starting point, goes back to the front of the audit chain, and expands the related research of audit quality from the policy level. Finally, this paper on the basis of predecessors, broaden the research window, reveals the mechanism of the impact of audit quality Smoke-free Laws, combining with the Chinese audit market's stage of development, make the organization strategy for the firm and industry status of regulators assessment provides some reference, put forward some Suggestions for development of audit market healthy.

The rest of this paper is arranged as follows: The second part is the background of the Smoke-free Laws; The third part is literature review and hypothesis derivation. The fourth part is the research design, giving the definition of relevant variables and regression model; The fifth part is the empirical results and analysis of smoking ban and audit quality and the robustness test; Finally, the conclusion and enlightenment are given.

2. Literature Review and Hypothesis Derivation

2.1. Concept of Audit Quality

In the 1980 s, there have been many research on audit quality, which is widely recognized DeAngelo (1981) study, he thought that audit quality represents the ability of the auditor found in violation of company financial statements and to correct the violation of motivation, and the auditor's professional competence and independence is closely related to the objective, is a combination of both.

Different scholars have different views to the definition of audit quality, the measure of the complex diverse is difficult to quantify directly, at present there are several alternative measurement have been accepted for recognition of audit quality indicators and methods, including the steerability accrued profit, firm size, the earnings response coefficient, the auditor audit opinion type, audit fees, etc. Although the definition and alternative measures of audit quality are different, they can be basically divided into auditor's professional competence and auditor's independence. China's audit market competition is fierce, the market concentration is low, some audit institutions audit fee negotiation ability is weak, in the case of income heavily dependent on the main client, their audit independence is affected to a certain extent. With the gradual maturity of earnings quality measurement models, scholars around the world begin to use earnings management degree or accrual quality to replace audit quality in a large number of cases, among which measure models based on JONES model account for the majority. Therefore, this paper uses controllable accrual profit to measure audit quality. Using the JONES model as its handling of the absolute value of the residual item accrued profit $|DA|$ measure.

2.2. Research on Audit Quality

For the research on audit quality, most scholars focus on the impact of audit quality on corporate governance effect, economic cost and capital market. Liao Yigang (2013) believes that high-quality audit has a significant impact on corporate debt governance. Jiang Wei and Lei Guangyong (2008) investigated enterprises in different institutional environments and found that high audit quality helps listed companies obtain more debt financing. And this effect is more obvious in state-owned enterprises and areas with higher level of financial development. Zhu Dan (2017) also believes that high-quality audit can reduce the cost of equity of listed companies, better play the role of signal transmission, reduce the agency cost of enterprises, and protect the interests of investors (Su Ling et al., 2017). In addition, high-quality audit can have synergistic effect with the internal governance mechanism of the company, so as to enhance the value of the company (Liao Yigang et al., 2012). Li Xinyu, Zhao Jingtao et al. (2017) believe that audit quality has a significant impact on the pricing effect of the capital market. The higher the audit quality, the lower the synchronization of stock prices and the higher the pricing efficiency of the capital market (Fan Zhuowei and Xie Weimin, 2017). Through the empirical sample of charitable donation, Chen Lihong et al. (2015) found that high-quality audit can help urge enterprises to actively fulfill their social responsibilities of charitable donation.

In addition, previous studies have discussed more influential factors of audit quality, including customer characteristics that affect audit quality, such as financial risks and types of audit opinions of the previous year that have an impact on audit quality of the current year. There is also a close relationship between auditor and audit quality. Auditor's personal characteristics

and the interests of audit stakeholders also have a significant impact on audit quality (Tang Hua et al., 2011; Guo Chunlin, 2014).

2.3. Smoking and Audit Quality

Tobacco, as a substance with great harm to human health, is closely related to six diseases among the eight leading causes of death in the world, including cardiovascular and cerebrovascular diseases, acute respiratory infections, tuberculosis, chronic obstructive pulmonary disease, etc. Nicotine, the main component contained in cigarettes, is an important poison causing cardiovascular and cerebrovascular diseases. Large intake of nicotine can aggravate myocardial ischemia, weaken myocardial contraction, and affect the pumping function of the heart (Sarexiang (2019)). Researchers studied smoking by releasing thousands of compounds, the mechanism of negative influence on cognitive function in smokers low HDL - Ch, total Ch is high, can grow along with the smoked and low neurons defoliation, metabolism and cerebral arteriosclerosis, and can cause the role of risk factors of cerebrovascular disease, is to promote one of the factors of brain aging. Longstreet thetal.(2001) and Longstreet the Tal.(2005) used large-scale magnetic resonance imaging (MRI) data to find that smoking was positively and significantly correlated with brain atrophy and WMHs. All of these studies confirm the negative effects of smoking on the brain, possibly on cognitive ability.

The researchers also looked at the effects of smoking on memory. The decline in prospective memory and executive function at work in long-term smokers has been linked to smoking. Prospective memory is the memory the brain uses to help achieve goals for daily tasks, such as taking medication ahead of time or remembering when to leave the house; Executive ability is used to organize tasks and focus on the present without being distracted by other factors. These two brain functions help us to live independently and support our ability to learn and remember everyday. Once these abilities are impaired, it is very difficult to live independently. A study by the University of Northumbria, published in *Frontiers in Psychiatry*, is the first of its kind to show that people who smoke and drink alcohol over a long period of their lives suffer significant impairments in daily prospective memory. The researchers found that the range of health problems caused by passive smoking was the same as those caused by active smokers, including cardiovascular and lung problems as well as cognitive and memory problems. These widespread problems can affect passive smokers in many areas, including health, education and employment.

In addition to its effects on the brain and cognitive abilities, smoking can also affect the health of employees and the number of hours they work, thus reducing the quality of audits. Smoking causes serious loss of social productivity due to frequent rest, long sick leave, and early retirement due to smoking-related diseases. The negative effects of employees who smoke on the work environment also have negative effects on non-smoking colleagues (Halpern, Shikiar, Rentz and Khan (2001)). After a district passed a Smoke-free law, smokers and nonsmoker employees working together became healthier and more productive, resulting in higher quality audit reports.

Other studies confirm the nicotine in the blood is the half-life of 30 minutes, this also means that, if you want to keep the brain nicotine levels stable, need a cigarette every 30 minutes, when less than the usual monohydrate, smokers will feel upset, inattention, the symptom such as dizziness, nausea, and desire to complement the nicotine, This is the mechanism of smoking addiction (Xiao Xiong (2017)). The occupational characteristics of audit work require auditors to have a high degree of occupational sensitivity, keen insight, and strong comprehensive analysis and judgment ability, and smoking will undoubtedly affect their work quality and efficiency. When the work status of audit staff is negatively affected by smoking, the audit report they produce will also have a certain negative effect.

Based on the above discussion, the first hypothesis proposed in this paper is:

H1: Smoke-free Laws can have a positive impact on audit quality.

Conversely, there is some evidence that smoking has a positive effect on audit quality. First of all, the human body after the intake of nicotine will stimulate the sympathetic nerve in the brain, visceral nerve stimulation affects the medulla, secreting adrenaline. Parasympathetic preganglionic fibers release acetylcholine, which acts on nicotinic acid acetylcholine receptors and causes them to release adrenaline and norepinephrine into the blood (Xu Chunxiao, Luo Cheng (2016)), bringing a temporary feeling of excitement, thus improving attention and work efficiency. Second, the short-term positive emotions brought by smoking can help enhance the flexibility of thinking, and these positive emotions can also bring audit staff self-confidence and optimism, so as to work better, supporting the potential positive impact of smoking on audit quality. Therefore, the alternative hypothesis proposed in this paper is:

H1a: Smoke-free Laws have a negative impact on audit quality.**2.4. The Relationship between Firm Size and Audit Quality**

Krishnan (2003) studied the correlation between firm size and audit quality and found that larger firms reported lower accruals, thus proving that larger firms had higher audit quality. Francis(2002) confirmed that the greater the likelihood that large firms will issue non-standard audit opinions can reduce earnings management to some extent. Foreign scholars have basically reached the same conclusion in both theoretical and empirical aspects: large accounting firms can provide higher quality audit services and enhance the reliability of financial statements. In the empirical research, the international big Four accounting firms are often used as the representatives of high quality audit services. Therefore, the second hypothesis is proposed in this paper:

H2: The impact of Smoke-free Laws on audit quality is more pronounced in the Big Four accounting firms.**3. Research Design****3.1. Research Samples and Data Sources**

Taking January 1, 1996 as the starting point of data collection, this paper selects a-share listed companies in Shanghai and shenzhen stock markets from 1996 to 2020 as the research object, and conducts sample screening according to the following criteria :(1) excluding listed companies in finance, insurance and public utilities industries; (2) Excluding ST and *ST listed companies; (3) Excluding companies whose data were seriously missing and difficult to supplement, 21,704 annual observations from 2,470 listed companies were finally determined. Among them, the promulgation and implementation time of Smoke-free Laws were collected and processed manually through the network, and the rest data were obtained from THE CSMAR database. In order to avoid the influence of extreme values and outliers, all continuous variables were treated with 1% Winsorize tail reduction. Data processing software uses Stata15.0 and SPSS 23.

3.2. Variable Definition and Model Design**3.2.1. Explained Variables**

With the gradual maturity of earnings quality measurement model, scholars in various countries gradually adopt earnings management degree or discretionary accruals to measure audit quality (PALMROSE Z V. (1986)). Dechow, etc, this paper studies (1995), based on the modified Jones model calculate the absolute value of handling accrued profit | DA | as substitution variables of audit quality. | DA | value is smaller, the auditees can be accrued profit manipulation is smaller, higher degree of earnings management, on behalf of the accounting firm to provide the higher quality of the audit report. The calculation process is as follows:

$$NDA_t = a_1(1/A_{t-1}) + a_2(\Delta S_t - \Delta R_t)/A_{t-1} + a_3(PPE_t/A_{t-1}) \quad (1)$$

$$TA_t/A_{t-1} = a_1(1/A_{t-1}) + a_2(\Delta S_t/A_{t-1}) + a_3(PPE_t/A_{t-1}) + \varepsilon_t \quad (2)$$

$$TA_t = NI_t - CFO_t \quad (3)$$

$$DA_t = TA_t/A_{t-1} - NDA_t \quad (4)$$

Among them, NDA_t represents the company's non-discretionary accruals in period T , A_{t-1} represents the company's total assets A_t at the end of the last period, δS_t represents the difference between the company's main business income in period T and period $T-1$, δR_t represents the difference between the company's accounts receivable before and after the two periods, and PPE_t represents the original value of the company's fixed assets in period T . The estimated values of A_1 , A_2 and A_3 in the formula are obtained by regression analysis of Equation (2). Finally, controllable accruals DA_t can be obtained by subtracting total accruals from non-controllable accruals.

3.2.2. Explanatory Variables

In this paper, the dummy variable Smoke-free is used to measure the influence of the Smoke-free law. The variable time is defined as 1 from $t+1$ if the Smoke-free law is implemented in the year t where the enterprise is registered, otherwise 0. The variable area is set to 0 for areas that have no Smoke-free laws or for the years prior to Smoke-free laws in the sample period, or 1 otherwise. Define the variable $\text{Smoke-free} = \text{time} * \text{area}$. Interaction terms between regional and annual indicator variables were added to control for time-varying differences in audit quality and the passage of Smoke-free Laws in different geographical regions.

Combined with the existing literature, it is concluded that large-scale accounting firms have better brand reputation and can provide higher quality audit services, while the international Big Four accounting firms are synonymous with high quality audit. Therefore, $BIG4$ is used as a substitute variable of firm size in this paper. If the listed company chooses the international Big Four accounting firms to undertake audit services, it takes 1; otherwise, it takes 0.

3.2.3. Control Variables

Referring to existing studies, the following control variables are also added into the regression model: Accounts receivable ratio (ARAT), return on Assets (ROA), liquidity ratio (CR), company SIZE (SIZE), leverage ratio (LEV), Industry (Industry) and Year (Year).

3.2.4. Regression Model

Hypothesis H1 and H1a empirically test the impact of the implementation of Smoke-free Laws on audit quality from two aspects of positive impact and negative impact respectively. To test the two hypotheses, use the following multiple regression model, inspection $|DA|_{s,t}$, s , t coefficient, and joined the relevant control variables.

$$|DA|_{s,t} = \beta_0 + \beta_1 \text{Smoke-free}_{s,t} + \beta_2 \text{ROA}_{s,t} + \beta_3 \text{LEV}_{s,t} + \beta_4 \text{ARAT}_{s,t} + \beta_5 \text{Size}_{s,t} + \beta_6 \text{CR}_{s,t} + \text{Industry and Year dummies} + \varepsilon \quad (5)$$

In equation (5), the left side of the dependent variable $|DA|$ is the absolute value of handling accrued profits, as the substitution variable of audit quality; The independent variable Smoke-free is a dummy variable. In the sample period, when the Smoke-free law is implemented in a region, it is set to 1, and for the region without the Smoke-free law or the year before the Smoke-free law is implemented, it is set to 0. According to hypothesis H1, audit quality is related to

physical and psychological factors of auditors, so the Smoke-free coefficient is predicted to be negative.

In order to test the impact of smoking ban on audit quality of the Big Four accounting firms (hypothesis H2), the following multiple regression model is constructed:

$$|DA|_{s,t} = \lambda_0 + \lambda_1 \text{Smoke-free}_{s,t} + \lambda_2 \text{BIG4} + \lambda_3 \text{ROA}_{s,t} + \lambda_4 \text{LEV}_{s,t} + \lambda_5 \text{ARAT}_{s,t} + \lambda_6 \text{Size}_{s,t} + \lambda_7 \text{CR}_{s,t} + \text{Industry} \\ \text{and Year dummies} + \varepsilon \quad (6)$$

According to the analysis of hypothesis H2, after the implementation of Smoke-free law, the improvement effect of audit quality in large-scale firms is more obvious, and the expected Smoke-free coefficient is negative and BIG4 coefficient is positive.

4. Empirical Results and Analysis

4.1. Descriptive Statistics

Table 1 shows the descriptive statistical results of the variables involved in the regression analysis. It can be seen that no extreme values exist for the main variables. In all the sample observations, the absolute value of the handling accrued profits of listed companies ($|DA|$) mean value is 0.205, the minimum value of 0.000, the maximum 3.610, the median 0.075, level difference is apparent, the results showed that the differences in audit quality of listed companies in our country, the universal existence in different degree of earnings management, The overall audit quality level needs to be improved. The mean value of Smoke-free implementation was 0.254 and the median was 0.000, indicating that the introduction of Smoke-free laws in most regions of China was late and the implementation of Smoke-free laws was relatively late. In 21,704 sample observation values, the areas with Smoke-free laws accounted for 39.1% of the total. In practice, the sample of listed companies implementing the Smoke-free Laws accounts for 25.2% of the total. Overall, the number of listed companies in areas where smoking is prohibited is low, and the coverage of the Smoke-free Laws is narrow. Therefore, it is necessary to further publicize and promote the Smoke-free Laws and popularize the harm of smoking. The mean value of whether to choose the big Four accounting firms (BIG4) is 0.051, and the median is 0.000. Among the samples of listed companies, the samples that choose the big four accounting firms account for 5.10% of the total. The high-quality audit services match the high audit fees. Audit fees is an important factor cannot be ignored, the company is mainly for the purpose of profit, also want to consider the company's size and match the cost-benefit principle, combined with the company for reasons of satisfy investor returns, willingness to seek high audit quality is not strong, so for the choice of audit firm, the larger the listed company's own development, Demand for audit services is higher, and there is a stronger tendency to choose the big four accounting firms, which is also consistent with the actual situation. Among the control variables, the mean value of return on assets (ROA) is 0.059, the minimum value is -0.975, and the maximum value is 2.428, indicating that the sample companies have a good development prospect, but there is a great difference in the profit scale of different companies. The mean value and standard deviation of company SIZE (SIZE) are 9.513 and 0.561, indicating that the sample covers listed companies of different sizes and has a wide coverage, which enhances the accuracy and reliability of empirical test results. The average leverage ratio (LEV) is 0.459, indicating that the asset-liability ratio of listed companies is moderate. However, the maximum leverage ratio is 12.24, indicating that some enterprises have high debt level and high financial risk.

Table 1. Descriptive statistics of relevant variables

Variable	N	Mean	Median	Sd	Min	Max
DA	21,704	0.205	0.075	0.401	0.000	3.610
Lnfee	21,704	13.53	13.44	0.760	10.31	19.40
Smoke-free	21,704	0.254	0.000	0.435	0.000	1.000
BIG4	21,704	0.051	0.000	0.219	0.000	1.000
ARAT	21,704	0.120	0.098	0.104	0.000	0.862
ROA	21,704	0.059	0.054	0.083	-0.975	2.428
SIZE	21,704	9.513	9.434	0.561	6.487	12.39
CR	21,704	2.323	1.610	2.807	0.094	42.48
LEV	21,704	0.459	0.451	0.272	0.007	12.24

4.2. Correlation Analysis

In order to verify the rationality of variable selection and analyze the correlation between Smoke-free law, the four major audit laws and audit quality, Pearson correlation test was conducted on the main variables. The analysis results are shown in Table 2. The correlation coefficient between Smoke-free and audit quality is -0.08 and significant at 5% level. The results show that there is a negative correlation between smoking ban and audit quality, and the implementation of smoking ban law reduces the controllable accruals of listed companies and improves audit quality, which preliminarily verifies hypothesis 1. BIG4 is negatively correlated with audit quality at a significant level of 5%, indicating that the selection of large-scale firms will improve audit quality, in line with expectations. From the perspective of control variables, accounts receivable ratio, return on total assets, leverage ratio and audit quality are positively correlated, indicating that the company does not have a strong desire to pursue high-quality audit for its own development or investment attraction. The company size and liquidity ratio are negatively correlated with audit quality, which also reflects that the larger the company size is, the higher the requirements on audit quality are. Basically, all variables are significant at the level of 5%, indicating that there is no serious multicollinearity problem between variables, the sample data meet the regression requirements, and the model setting is reasonable.

Table 2. Correlation analysis

	DA	Lnfee	Smoke-free	BIG4	ARAT	ROA	SIZE	CR	LEV
DA	1								
Lnfee	-.236**	1							
Smoke-free	-.080**	.100**	1						
BIG4	-.039**	.438**	.040**	1					
ARAT	0.003	-.097**	.122**	-.061**	1				
ROA	.040**	.035**	0.005	.042**	-.075**	1			
SIZE	-.234**	.777**	.051**	.335**	-.176**	.063**	1		
CR	-.036**	-.148**	.051**	-.068**	-0.008	.043**	-.223**	1	
LEV	.124**	.162**	-.067**	.058**	.018**	-.180**	.243**	-.274**	1

Note: *, **, *** were significant at the level of 0.10, 0.05 and 0.01 respectively.

4.3. Regression Analysis

Table 3 lists the empirical test results of the impact of smoking ban on audit quality. You can see that the Smoke - free and | DA | significantly negative correlation and regression coefficient (beta = 0.0402, p < 0.01), in line with expectations, it shows that audit quality of listed

companies as the Smoke-free Laws with enforcement and has obvious improvement of support H1.

Table 3. Regression analysis of smoking ban and audit quality

	DA
Smokefree	-0.0402***
	(-6.69)
ARAT	-0.164***
	(-6.43)
ROA	0.452***
	(14.28)
SIZE	-0.218***
	(-44.20)
CR	-0.00745***
	(-7.68)
LEV	0.292***
	(28.48)
_cons	2.169***
	(45.96)
N	21704
Adj_R2	0.1049

Table 4. Regression results of smoking ban, four major enterprises and audit quality

	DA
Smoke-free	-0.0412***
	(-6.86)
BIG4	0.0905***
	(7.25)
ARAT	-0.163***
	(-6.42)
ROA	0.448***
	(14.17)
SIZE	-0.230***
	(-44.28)
CR	-0.00745***
	(-7.69)
LEV	0.294***
	(28.65)
_cons	2.278***
	(46.05)
N	21704
Adj_R2	0.1070

The reason for the above results may be that when a certain area enacted and implemented a Smoke-free law, the auditor's work efficiency was improved and the audit quality was improved. Hypothesis H1 is verified. The adjusted R² is 0.1049, indicating that the fitting degree of the whole regression equation is good. Among the control variables, accounts receivable ratio, company size, liquidity ratio and are significantly negatively correlated with audit quality, while return on assets and leverage ratio are significantly positively correlated with audit quality.

Table 4 shows whether the impact of smoking ban on audit quality changes after the inclusion of the variable of whether to choose the Big Four accounting firms. The results show that the Smoke - free and | DA | significantly negative correlation and regression coefficient (beta = 0.0412, p < 0.01), suggesting to implement Smoke-free Laws, choose the big four audit quality of listed companies to promote the effect compared with the big four firm no more obvious. Overall, companies that chose the Big Four improved their audit quality after the smoking ban law went into effect than those that did not. The hypothesis H2 is verified.

5. Research Conclusions and Implications

Based on Smoke-free Laws as the breakthrough point, by building a regression model, working in the comprehensive evaluation of China's audit market environment, on the basis of the empirical test the Smoke-free Laws on audit quality may be the economic impact of, the results show that the Smoke-free Laws promulgated and implemented will have a positive impact on audit quality, comply with the expectations hypothesis H1. For listed companies that choose the Big Four accounting firms, this positive effect is more obvious, in line with H2 hypothesis.

This paper, starting from the promulgation and implementation of Smoke-free Laws, studies the influence of Chinese laws and policies on audit quality in audit market activities, expands relevant research, enriches relevant theories on Smoke-free Laws and audit quality, and also provides some references for listed companies to formulate development strategies and market regulators to evaluate the industry situation. For listed companies, the management should realize the importance of banning smoking in the workplace and provide a good and healthy working environment for employees and auditors so as to improve work efficiency. For accounting firms, audit quality depends on the power of game between audit firms and clients. In the context of fierce competition in the current audit market, it is encouraged to jointly create a healthy working environment with the audited firms, promote a virtuous cycle of the relationship between auditors and clients, and further improve audit quality. For market regulators, they should formulate laws and regulations prohibiting smoking in the workplace, advocate a green and healthy working atmosphere, pay attention to the follow-up supervision and guidance, and promote the orderly and stable operation of China's audit market.

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