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## Article

# Research on tax compliance incentive effects of platform companies from the perspective of incomplete contract: An empirical study based on China

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**RESEARCH ON TAX COMPLIANCE INCENTIVE EFFECTS OF PLATFORM  
COMPANIES FROM THE PERSPECTIVE OF INCOMPLETE CONTRACT –  
AN EMPIRICAL STUDY BASED ON CHINA**Xuefeng Shao<sup>1</sup> and Shi Chen<sup>2\*</sup><sup>1)2)</sup>*Economics School of Jilin University, Changchun, China***Please cite this article as:**

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**Abstract**

In this paper, based on the incomplete contract perspective, we select the implementation of the Electronic Commerce Law of the People's Republic of China as a quasi-natural experiment to study the tax compliance incentive effects of platform firms. Our study finds that the Chinese experience helps to improve the efficiency of tax compliance contract enforcement and significantly increases the propensity of platform firms to comply with taxes. Of course, these effects are also constrained by the contractual environment, social responsibility, financing constraints, and market competition. Further mechanism tests show that the incompleteness of the tax compliance contract is compensated by two mechanisms of action, namely the reduction of information asymmetry and the reduction of transaction costs of the tax department, which generate tax compliance incentive effects. The research has important implications for optimising the tax compliance contract of platform firms and reducing tax leakage in the platform economy.

**Keywords:** incomplete contract; platform enterprises; tax compliance; transaction cost

**JEL Classification:** H26, D86

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## **Introduction**

Together with the wide application of digital information technology, the platform economy as a new economic model of the market economy brings many advantages, such as reducing the transaction costs of enterprises, increasing the social employment, breaking the geographical and spatial restrictions, and reducing the waste of resources, and has become a new engine of economic growth in various countries (Barbu et al., 2018; Niu et al., 2022; Zha et al., 2022; Zhang et al., 2022a; Zhang et al., 2022b; Martin-Martin et al., 2022). From a global perspective, China is in a relatively leading position in the development of the platform economy. In terms of the number of platform companies, market capitalisation, and transaction size, China ranks second in the world after the United States. From 2018 to 2021, the transaction scale of China's sharing economy increased from 2.9 trillion yuan to 3.7 trillion yuan, with a growth rate of 27.6%. Among them, the proportion of online take-out revenue as well as online take-out per capita expenditure in China's food and beverage industry reaches about 20% in 2021; the proportion of online cab passenger traffic among online cabs reaches about 30%, and the proportion of online taxi per capita expenditure to travel consumption expenditure reaches about 20%; the proportion of shared accommodation to all accommodation room revenue reaches 6%, and the proportion of shared accommodation per capita expenditure to accommodation consumption expenditure reaches 6% (National Information Center Sharing Economy Research Center, 2019, 2020). From 2017 to June 2021, the size of China's online payment consumers grew from 530 million to 1.011 billion, an increase of up to 200% (China Internet Network Information Center, 2021). In 2021, China's online retail sales reached 13.1 trillion yuan, up 14.1% year-on-year, a growth rate 3.2 percentage points faster than the previous year (China Bureau of Statistics, 2022). The platform economy plays an increasingly important role in promoting economic development by changing the traditional transaction model, reducing communication costs between enterprises and consumers, accurately understanding consumer needs, and creating personalised services. However, due to its characteristics of two-sided market, economies of scale and network effects, the platform economy also raises a number of prominent problems, such as data leakage, price abuse, tax evasion, disorderly capital expansion and winner-take-all (Rodrigues et al., 2022).

In view of this, it is necessary to regulate the platform economy, guide the healthy development of the platform economy and compensate for the imperfect nature of platform economy contracts. In 2019, China issued and implemented the first comprehensive law in the field of e-commerce, the E-Commerce Law of the People's Republic of China (hereinafter referred to as the E-Commerce Law). The E-Commerce Law clearly stipulates the tax obligations of e-commerce operators and the need for e-commerce platforms to fulfil the obligation to report the identity and tax information of operators on the platform to the tax authorities. The implementation of this policy fills the black zone in the field of taxation of the platform economy. Based on the above background, this paper conducts a study using China as an example to explore the tax compliance incentive effect of platform enterprises.

## **1. Literature review**

Whether platform companies induce large-scale tax evasion as one of the problems caused by the platform economy. At present, scholars have different views on the taxation of platform companies. One view is that the tax collection of platform enterprises faces many

difficulties. On the one hand, the incompatibility of the tax system with the platform economy increases the transaction costs of taxpayers and tax authorities. Platform enterprises are involved in several activities, and the industries are integrated. For example, the distinction between business income, labour compensation, and royalties, and property transfer income. The current tax system does not have appropriate rules on what type of income is appropriate for the type of income of converging enterprises (Shao et al., 2022). There is also no uniformity as to whether the various forms of electronic services provided by platform companies are subject to pre-tax deduction and at what rate. All of these are additional burdens for platform companies. Platform enterprises break the boundaries of geographical space and facilitate transactions across regions and even countries (Agrawal and Fox, 2017; Spinosa and Chand, 2018). At the same time, the transactions of platform enterprises involve multiple subjects. It is difficult for the tax authority to verify the information of each business, all revenue acquisition channels, revenue payment subjects, and costs and expenses consumed by the enterprise, which increases the cost of enforcement and supervision by the tax authority (Alm, 2021; Ma Argiles-Bosch et al., 2021). However, concealing the transaction process of platform enterprises widens the information gap between taxpayers and tax authorities. Platform enterprises have all the transaction information, but the lack of effective incentives for platform enterprises to report information results in platform enterprises not truthfully reporting all the tax-related information they have, such as the identity of transaction subjects, bank account numbers, payment subjects, and income amounts, to the tax authority (Agrawal and Fox, 2021). The data underlying the tax system is decentralised and cannot be adapted to the platform economy. Tax governance has limited application of technologies, such as cloud computing and blockchain, to intelligently and accurately monitor anomalous changes in tax sources (Stabrowski, 2017; Agrawal and Fox, 2021).

Another view is that tax collection by platform companies has new advantages. On the one hand, platform enterprises have a large amount of tax-related information data, which expands the channels for tax authorities to obtain information, lays the foundation for tax authorities to obtain massive data, and accelerates the process of building intelligent taxation. With the first-hand data held by platform companies, tax authorities can easily confirm whether the transactions are real and trustworthy, facilitate tax management, improve the level of tax risk control, and increase the accuracy of tax audits (Agrawal, 2021). On the other hand, platform enterprises collect a large number of tax sources, reduce the marginal cost of tax administration, achieve the marginal cost of administration close to zero, and create the scale effect of tax administration. Tax authorities and platform enterprises form a good cooperation, and platform enterprises can play the function of supervision and management. The taxation department can achieve the goal of supervising the relevant subjects of the platform economy by supervising only the platform, and significantly reduce the time and manpower costs of tax collection and administration. As the proportion of the platform economy in the overall economy increases, the number of tax returns from platform enterprises is also gradually increasing. Due to the tax agglomeration ability of platform enterprises, the marginal cost of tax administration tends to zero, creating the scale effect of tax administration (Alm, 2021).

## 2. Research methodology

### 2.1. Theoretical analysis and research hypothesis

#### 2.1.1. Information mechanism

The nature of the platform economy leads to the opacity of data and higher levels of manipulation (Ma Argiles-Bosch et al., 2021). The tax authority cannot take the control and collect and verify the authenticity of tax information of enterprises with the help of accounting books, etc. The platform economy includes many participating subjects, and the subjects are distributed in different regions, which leads to the fragmented characteristics of tax information (Thomas, 2018). Platform companies achieve the objective of tax non-compliance through virtual non-existent transactions. Information on contract flow, capital flow, and logistics is scattered, and the tax authority cannot control tax by invoice and verify the authenticity of transactions. Therefore, the information asymmetry between platform companies and tax authorities leads to the incompleteness of tax contracts. The E-commerce Law stipulates that platform operators report the identity information and tax-related information of taxpayers on the platform to the taxation department, which can play a complementary and synergistic role among the data and obtain a panoramic view of things. At the same time, from the taxpayer's point of view, the information reported by the platform increases the channels for the taxation department to obtain information, and the data from different sources can be corroborated with each other, which reduces the behaviour of platform companies to provide "different" data to different departments for opportunistic motives, and ensures the authenticity of the data (Agrawal and Fox, 2021; Alm, 2021). As a result, tax authorities are able to detect corporate anomalies in a timely and accurate manner. The company's internal information is more transparent, the difficulty and cost of financial manipulation is significantly increased, and the completeness of the tax compliance contract is improved.

#### 2.1.2. Transaction cost mechanism

The costs of enforcing and monitoring tax compliance in the platform economy are high (Ma Argiles-Bosch et al., 2021). The paperless transactions of the platform economy increase the possibility of transaction manipulation and concealment and make it more difficult for the tax authority to conduct audits. There is an information asymmetry between the tax authority and platform participants in several respects, such as whether they are involved in platform activities, the type of business they are involved in, the channels of income generation, the recipients of income, and the costs and expenses incurred (Stabrowski, 2017). At the same time, there are many gaps in tax administration technologies. Different systems in the tax registration and filing process have different inputs and exports. Different standards for data transfer between departments make it difficult to integrate effectively and respond effectively to the characteristics of the platform economy (Stabrowski, 2017; Agrawal and Fox, 2021). All of the above increases the transaction costs of supervision by tax authorities. The E-commerce Law mentions that e-commerce platforms must fulfil the tax department's obligation to report the identity information and tax-related information of platform operators. By reporting the primary data they have to the taxation department, platform operators will expand the channels through which the taxation department can obtain tax-related information, increase the verifiability of tax-related information from different channels, accurately distinguish whether the tax-related information is true or not, enhance

the risk analysis ability of the taxation department, and improve the accuracy of audits (Alm, 2021; Agrawal, 2021). Good cooperation between platform companies and tax authorities. With the ability of platform companies to collect tax sources, the tax authority realises the marginal cost of tax administration, which is close to zero, by supervising all tax subjects on the platform through platform companies. Transaction costs, such as time and manpower required for tax collection and management, are greatly reduced, the incompleteness of tax compliance contracts is reduced, and the efficiency of tax compliance contracts is increased.

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

H1: The implementation of the E-Commerce Law effectively compensates the incompleteness of enterprises' tax compliance contract and motivates enterprises' tax compliance.

H2: The E-commerce Law improves the tax compliance contract by reducing information asymmetry and stimulating companies' tax compliance motivation.

H3: The E-commerce Law can effectively reduce transaction costs and improve the efficiency of tax compliance contracts, thus curbing the tendency of corporate tax non-compliance.

## 2.2. Research design

### 2.2.1. Data sources

The data of platform enterprises in this paper are obtained from Wind online sales data. We remove Hong Kong, overseas listed, delisted, IPO, ST enterprises, and non-manufacturing enterprises, and finally obtain a sample of 187 platform enterprises. In this paper, we match the platform enterprises with manufacturing listed companies in Shanghai and Shenzhen A-shares, and process the data as follows: (1) delete ST and \*ST enterprises; (2) delete enterprises with serious missing data and outlier enterprises; (3) winsorise at the top and bottom 1% levels. We finally get 6841 observations. The variable indicators in this paper are mainly from Wind database, China Statistical Yearbook, China Marketisation Index Report by Provinces and Hexun.com, etc. The data interval is 2015-2021.

### 2.2.2. Model

To test whether there is an incentive effect of policy implementation on tax compliance, i.e., hypothesis H1. Drawing on Bertrand and Mullainathan (2003) and Chen et al. (2012), this paper constructs the following difference-in-difference model.

$$Tax_{it} = \alpha_0 + \alpha_1 Treat_i \times Time_t + \alpha_2 X_{it} + Year_t + \mu_i + \varepsilon_{it} \quad (1)$$

where  $i$  represents the firm and  $t$  represents time.  $Treat_i$  indicates whether the firm is in the treatment group.  $Time_t$  represents whether firm  $i$  is affected by the implementation of the policy in year  $t$ .  $X$  is the control variables.  $Year_t$  and  $\mu_i$  are year and individual fixed effects, respectively, and  $\varepsilon_{it}$  is a random disturbance term.

### 2.2.3. Variable setting

The explained variable is tax compliance (*TAX*). This paper draws on Desai and Dharmapala (2006) to measure the tax compliance of firms by their Book-Tax Difference (*BT**D*).

The explanatory variable is the treatment group dummy variable (*Treat*). The data for platform enterprises are taken from Wind online sales data. Non-platform enterprises are manufacturing enterprises listed on Shanghai and Shenzhen A-shares. In this paper, platform enterprises are taken as the treatment group with a value of 1. Non-platform enterprises, as the control group in this paper, are taken as 0. Policy implementation dummy variable (*Time*). China started to implement the Electricity Business Law in January 2019. Therefore, 2019 is selected as the time point for policy implementation in this paper. That is, 1 is taken in 2019 and after, and the value is 0 before 2019.

Control variables. Considering that other factors may affect corporate tax compliance, referring to the studies of (Armstrong et al., 2015; Dyreng et al., 2010), the following control variables were selected: firm size (*Size*), gearing ratio (*Lev*), return on assets (*Roa*), shareholding ratio of the first largest shareholder (*Top1*), separation of powers ratio (*Sep*), director size (*Brdsize*), combined leverage (*DTL*), total assets Growth rate (*Zgrowth*), Net asset per share growth rate (*NAG*). (Table no. 1).

**Table no. 1. Variable definitions**

Variable types	Variable name	Variable code	Definitions and metrics
Explained variables	Tax compliance	<i>TAX</i>	BT <i>D</i> = (accounting profit before tax - taxable income) / total assets at the end of the period
Explanatory variables	Processing group	<i>Treat</i>	Processing group. Platform enterprises take the value of 1 Control group. Non-platform enterprises take the value of 0
	Policy implementation dummy variable	<i>Time</i>	1 for 2019 and beyond, 0 for previous values
Control variables	Firm size	<i>Size</i>	the logarithm of total corporate assets
	Gearing ratio	<i>Lev</i>	the ratio of total liabilities to total assets
	Return on assets	<i>Roa</i>	Net profit to average assets
	Shareholding ratio of the first largest shareholder	<i>Top1</i>	the number of shares held by the first largest shareholder/total equity
	Separation of powers ratio	<i>Sep</i>	the difference between control and ownership of a listed company by the effective controller
	Director size	<i>Brdsize</i>	the number of directors
	Combined leverage	<i>DTL</i>	financial leverage × operating leverage
	Total assets Growth rate	<i>Zgrowth</i>	(Total assets at the end of the current period - Total assets at the beginning of the current period) / Total assets at the beginning of the current period

Variable types	Variable name	Variable code	Definitions and metrics
	Net asset per share growth rate	<i>NAG</i>	(Net asset per share at the end of the current period - Net asset per share at the end of the same period of the previous year)/Net asset per share at the end of the same period of the previous year Where, net assets per share = total owner's equity / number of common shares
	Year	<i>Year</i>	Year dummy variable
	Individual	$\mu$	Individual dummy variable

**3. Results and discussion**

**3.1. Empirical results and analysis**

**3.1.1. Basic regression results**

The regression results for the tax compliance incentive effect of platform firms are shown in Table no. 2. Column (1) of table no. 2 shows the regression results without the inclusion of control variables, and the cross product term *Treat* × *Time* is significantly negative at the 1% level, which initially confirming hypothesis H1. Column (2) shows the regression results controlling for firm-level control variables, year fixed effects, and firm fixed effects. The results show that the coefficient  $\alpha_1$  of *Treat* × *Time* is still significantly negative at the 1% level, which further supports hypothesis H1, indicating that the implementation of the policy will significantly motivates corporate tax compliance and creates an incentive effect of tax compliance.

**Table no. 2. Baseline regression results**

Variables	(1)	(2)
	<i>TAX</i>	<i>TAX</i>
<i>Treat</i> × <i>Time</i>	-0.0066*** (-3.4620)	-0.0061*** (-3.1910)
<i>Control variables</i>	No	Yes
<i>Year</i>	Yes	Yes
$\mu$	Yes	Yes
<i>N</i>	6841	6841
<i>R</i> <sup>2</sup>	0.637	0.682

Note: \*, \*\*, and \*\*\* denote 10%, 5%, and 1% significance levels, respectively; t-statistics are given in parentheses.



3.1.2. Robustness tests

To reduce sample selectivity bias and ensure robustness of results, this paper has separately parallel trend test, propensity score matching (PSM), DDBTD as the explained variables, explanatory variables are lagged for one period, adding other control variables and placebo test (Rosenbaum and Rubin, 1983; Heckman et al., 1998; Desai and Dharmapala, 2009; Boler et al., 2015; Li et al., 2016). The results are shown in Figure no.1, Table no. 3 and Figure no. 2, all of which demonstrate the robustness of the regression results.

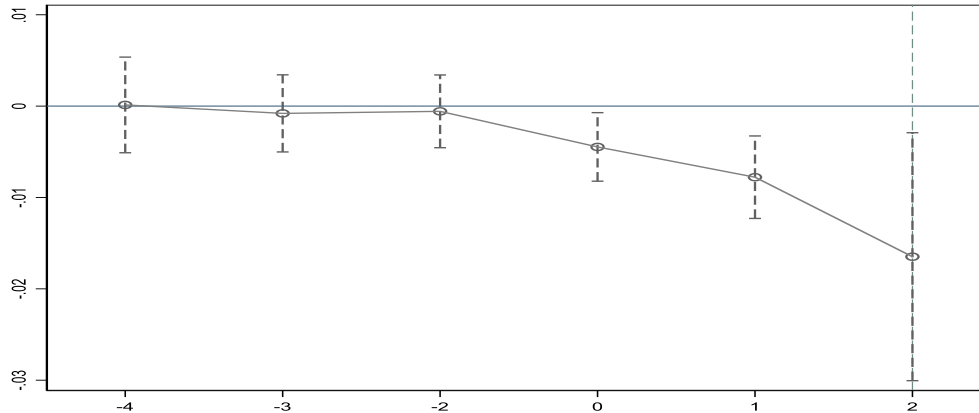


Figure no. 1. Parallel trend graph

Table no. 3. Robustness tests

Variables	(1)	(2)	(3)	(4)
	PSM	Replacing the explained variables	The explanatory variables are lagged by one period	Adding other control variables
	TAX	TAX	TAX	TAX
<i>Treat × Time</i>	-0.0095** (-2.0606)	-0.0065*** (-3.3963)	-0.0080*** (-2.7699)	-0.0060*** (-3.1685)
<i>EM</i>				-0.0001 (-0.6646)
<i>Roi</i>				-0.0000*** (-2.5853)
<i>GR</i>				-0.0006 (-0.6763)
<i>Control variables</i>	Yes	Yes	Yes	Yes
<i>Year</i>	Yes	Yes	Yes	Yes
$\mu$	Yes	Yes	Yes	Yes
<i>N</i>	1235	6837	4213	6841
<i>R</i> <sup>2</sup>	0.829	0.689	0.736	0.682

Note: \*, \*\*, and \*\*\* denote 10%, 5%, and 1% significance levels, respectively; t-statistics are given in parentheses.

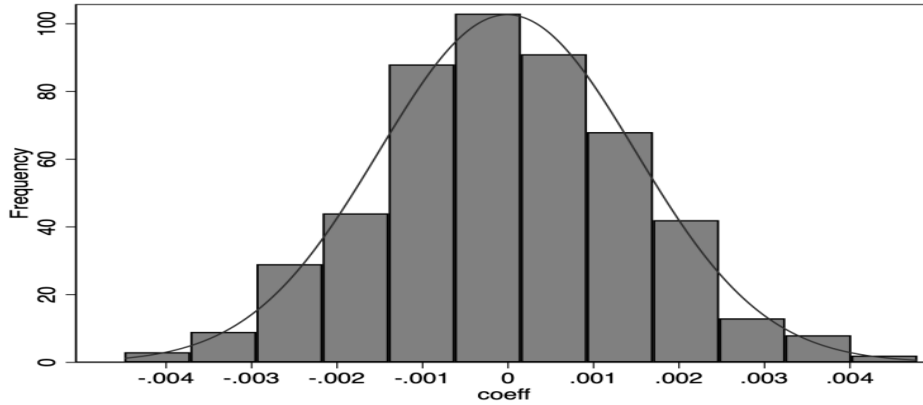


Figure no. 2. Placebo test graph

3.2. Mechanism of action test

3.2.1. Information mechanism

Based on the previous theoretical analysis, in order to test hypothesis H2. This paper refers to Baron and Kenny (1986) and constructs the following mediating effect model.

$$Information_{it} = \beta_0 + \beta_1 Treat_i \times Time_t + \beta_2 X_{it} + Year_t + \mu_i + \varepsilon_{it} \quad (2)$$

$$Tax_{it} = \delta_0 + \delta_1 Treat_i \times Time_t + \delta_2 Information_{it} + \delta_3 X_{it} + Year_t + \mu_i + \varepsilon_{it} \quad (3)$$

Where *Information* is the mediating variable, which indicates the transparency of corporate information. Other variables are defined as in equation (1). This paper draws on Jin and Myers (2006) to measure corporate information transparency using share price synchronisation. The higher the synchronisation of the stock price synchronisation, the less transparent the corporate information is. We refer to the method of Durnev et al. (2003) to measure stock price synchronisation.

Since the coefficients of  $\beta_1$  as well as  $\delta_2$  in the mediating effect model are significant in columns (1) and (2) of table no. 4, the mediating effect exists, and the magnitude of this effect is 0.00013. The coefficient of the variable *Treat × Time* in column (1) of Table no. 4 is significantly negative at the 5% level, indicating that the policy significantly improves the information transparency of enterprises and exerts an information effect. Furthermore, the coefficient of *Treat × Time* in column (2) is significantly negative and that of *Information* is significantly positive, indicating that the policy somehow promotes corporate information transparency and further motivates the tax compliance of platform companies. The contribution of this mediating effect to the total tax compliance effect is 2.2%. Hypothesis H2 of this paper was tested.

Table no. 4. Information mechanism regression results

Variables	(1)	(2)
	<i>Information</i>	<i>TAX</i>
<i>Treat</i> × <i>Time</i>	-0.1626** (-2.3355)	-0.0059*** (-3.1213)
<i>Information</i>		0.0008** (2.0232)
<i>Control variables</i>	Yes	Yes
<i>Year</i>	Yes	Yes
$\mu$	Yes	Yes
<i>N</i>	6841	6841
<i>R</i> <sup>2</sup>	0.553	0.682

Note: \*, \*\*, and \*\*\* denote 10%, 5%, and 1% significance levels, respectively; t-statistics are given in parentheses.

### 3.2.2. Transaction cost mechanism

Based on the mechanistic analysis above, in order to test hypothesis H3. This paper draws on Baron and Kenny(1986) to construct the following mediating effect model.

$$Cost_{it} = \beta_0 + \beta_1 Treat_i \times Time_t + \beta_2 X_{it} + Year_t + \mu_i + \varepsilon_{it} \quad (4)$$

$$Tax_{it} = \delta_0 + \delta_1 Treat_i \times Time_t + \delta_2 Cost_{it} + \delta_3 X_{it} + Year_t + \mu_i + \varepsilon_{it} \quad (5)$$

where *Cost* is the mediating variable and denotes the transaction costs of the tax authority. The other variables are defined as in equation (1). In this paper, we use the tax administration effort to represent the transaction costs of the tax authority. The higher the tax collection effort, the higher the transaction cost that the tax authority needs to pay. Drawing on Xu et al. (2011), Wen et al. (2020), Liang et al. (2021) and other measures of tax administration intensity in China.

The coefficients corresponding to  $\beta_1$  as well as  $\delta_2$  in the mediating effect model are significant in columns (1) and (2) of Table no. 5. Therefore, there is a mediating effect, and the magnitude of this effect is 0.00015. The coefficient of the variable *Treat* × *Time* in column (1) of table no. 5 is significantly negative at the 10% level, indicating that the Chinese experience effectively reduces the transaction costs of the tax department. Furthermore, the coefficient of *Treat* × *Time* in column (2) is significantly negative and *Cost* is significantly positive, indicating that the policy somehow reduces transaction costs and further motivates the tax compliance of platform enterprises, and the contribution of this part of the mediating effect to the total effect of enterprise tax compliance is 2.8%. Hypothesis H3 of this paper was tested.

Table no. 5. Regression results of transaction cost mechanism

Variables	(1)	(2)
	<i>Cost</i>	<i>TAX</i>
<i>Treat</i> × <i>Time</i>	-0.0119* (-1.7331)	-0.0055*** (-2.8758)
<i>Cost</i>		0.0129*** (2.6661)

Variables	(1)	(2)
	<i>Cost</i>	<i>TAX</i>
<i>Control variables</i>	Yes	Yes
<i>Year</i>	Yes	Yes
$\mu$	Yes	Yes
<i>N</i>	6712	6712
$R^2$	0.900	0.665

Note: \*, \*\*, and \*\*\* denote 10%, 5%, and 1% significance levels, respectively; t-statistics are given in parentheses.

### 3.3. Further analysis

#### 3.3.1. Contractual environment

This paper measures the contractual environment using the indicators of the development of market intermediary organisations and the legal institutional environment among the five indicators of the Fan Gang Marketisation Index. We divide the sample into two groups, high and low, according to the median contractual environment for the regressions, and obtain the results in table no. 6. Based on columns (1) and (2) of Table no.6, we can see that the coefficient of *Treat* × *Time* is significantly negative at the 10% level in the high contract environment, but has a limited impact in the low contract environment. The results suggest that the policy significantly increases the tax compliance of platform companies, but the effect is not significant in the low contract environment.

#### 3.3.2. Corporate social responsibility

This paper measures the level of corporate social responsibility using Hexun’s Social Responsibility Rating Score, where a higher score indicates that the company is more socially responsible. In this paper, the sample is divided into two groups of high and low social responsibility according to the median social responsibility score for regression, and the results in Table no. 6 are obtained. Based on columns (3) and (4) of table no. 6 we can see that the policy significantly increases tax compliance for actively socially responsible platform firms, but has limited impact on socially irresponsible platform companies.

#### 3.3.3. Financing constraints

This paper draws on Kaplan and Zingales (1997) to construct the KZ index to measure the degree of financing constraints of firms. The higher the KZ index, the higher the degree of financing constraints faced by the firms. This paper divides the sample into two groups of high and low according to the median financing constraint and obtains the results in Table no. 6. Based on columns (5) and (6) of Table no. 6, we can see that there is a significant incentive for firms with low financing constraints to improve their tax compliance, while the effect on firms with high financing constraints is limited.

### 3.3.4. Market competition

This paper constructs the Hirschman Index HHI using the sum of the squares of the total assets of all firms in the industry/total industry assets, where a higher value of the index indicates a lower level of market competition faced. In this paper, the sample is divided into two groups of high and low market competition according to the median market competition for regression, and the results are given in Table no. 6 are obtained. The coefficient in column (7) is significantly negative at the 10% level and the coefficient in column (8) is significantly negative at the 1% level, with a significant effect. The results suggest that tax compliance can be significantly incentivised for platform firms facing low levels of market competition, while the effect is not significant for firms facing high levels of market competition.

**Table no. 6. Regression results of contractual environmental heterogeneity**

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	High contractual environment	Low contractual environment	High social responsibility	Low social responsibility	High financing constraints	Low financing constraints	High market competition	Low market competition
	TAX	TAX	TAX	TAX	TAX	TAX	TAX	TAX
<i>Treat × Time</i>	0.0052 <sup>*</sup> (-1.8868)	-0.0050 (-1.1917)	0.0098 <sup>**</sup> (3.8906)	0.0003 (0.0850)	-0.0010 (-0.2887)	0.0072 <sup>**</sup> (2.9165)	-0.0065 <sup>*</sup> (-1.7001)	0.0059 <sup>**</sup> (2.5800)
<i>Control variables</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Year</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
$\mu$	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>N</i>	3466	3375	3493	3348	3421	3420	3538	3303
<i>R</i> <sup>2</sup>	0.734	0.703	0.741	0.755	0.749	0.740	0.691	0.691

Note: \*, \*\*, and \*\*\* denote 10%, 5%, and 1% significance levels, respectively; t-statistics are given in parentheses.

### Conclusions

Our study finds that the implementation of the policy significantly reduces the incompleteness of the tax compliance contract of the platform firms. Further mechanism tests show that the two main mechanisms, information effect and cost effect, improve the tax compliance contracts of platform enterprises. Heterogeneity analysis shows that the effect of the policy to improve the completeness of the tax compliance contracts of the platform enterprises is more pronounced for platform enterprises with a good contractual environment, active social responsibility, low financing constraints, and low market competition. We expand the research perspective on tax compliance in the platform economy, fill a gap in the existing literature, and have enriched the research on incomplete contract theory. Due to the availability of data, this paper only considers the information and transaction cost mechanisms of tax compliance for platform companies from the perspective of incomplete contracts and could be expanded in the future to investigate other action mechanisms.

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