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# Regional Rule of Law Environment and Firm Performance of Manufacturing Listed Companies: Evidence from China

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## Abstract

**Within institutional economics, the legal environment in a region is crucial for its economic development. This article studies how the regional rule of law affects Chinese manufacturing companies' performance. It analyzes the impact of rule of law across 31 Chinese provinces from 2012 to 2019, using CSMAR database. Initial findings show a negative link between manufacturing performance and provincial rule of law. It suggests that collaboration between local governments and enterprises might lead to better performance in regions with weaker legal environments. State-owned firms on the stock market don't benefit from this collaboration, unlike private ones. Examining municipal-level law shows it's not significant in affecting listed companies' performance.**

## Keywords

**The Rule of Law Environment; Listed Companies; Company Performance.**

## 1. Introduction

The rule of law stands as a significant emblem of human civilization's advancement, constituting a fundamental approach to governance and administration, embodying the relentless pursuit of the Communist Party of China and the Chinese people[1]. The establishment and robustness of a legal framework serve as benchmarks for a nation's level of civilization. A sound legal environment significantly influences various facets of a nation, including its political stability and economic development. Both Old Institutional Economics (OIE) and New Institutional Economics (NIE) have articulated the impact and mechanisms of differences in legal environments and legal systems on economic development. They emphasize the role of law and social systems in shaping economic progress and recognize the heterogeneity of economic entities, examining the effects of institutions on economic behavior [2,3]. In China, the rule of law environment affects both the day-to-day operations of companies and the regulation of rights and obligations among economic agents, thereby impacting corporate performance and the national economy. Numerous factors influence corporate performance, encompassing external market elements such as political, economic, technological[4], industry positioning[5], cash flow[6], and available political resources[7], as well as internal enterprise factors including R&D expenditures[8,9], capital structure[10], board composition[11], property rights of enterprises[12], and company size[13]. As a constituent of the external market factors for companies, the rule of law environment not only influences companies' daily operations but also affects corporate performance through interventions in civil litigation affecting companies.

In recent years, China's overall rule of law environment has continuously improved. The concept that 'rule of law constitutes the best business environment' has deeply penetrated society. The Party and the state's emphasis on the rule of law and business environment fundamentally support comprehensive governance based on the rule of law, aiding entrepreneurs in forming stable expectations concerning law and legal governance. However, the overall disparity and lag in China's rule of law environment persist, with significant regional

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differences. Although the rule of law environment, represented by the number of lawyers per capita, has shown consistent improvement, growing at an average annual rate of 11% from 2012 to 2019, increasing from 199.95 per million people in 2012 to 354.05 per million people in 2019, the gap remains substantial when compared to developed countries like the United States. In 2021, China had 406.91 lawyers per million people, while the United States had 3940.4 lawyers per million people during the same period. Moreover, considerable regional disparities exist in China's rule of law environment. In the period from 2012 to 2019, Beijing had the highest number of lawyers per capita nationwide, averaging 1186 lawyers per million people over seven years. In contrast, Xinjiang had the fewest lawyers per capita, with only 109.7 lawyers per million people. Except for Beijing and Shanghai, the number of lawyers per capita in other provinces and regions did not exceed 500 per million people. Such substantial regional disparities in the rule of law environment could lead to significant discrepancies in judicial arbitration experiences for economic entities operating in different provinces, consequently resulting in varied corporate performance across different provinces.

The stark disparity in the rule of law environment, juxtaposed against China's remarkable economic growth, appears to challenge traditional institutional economic theories and common knowledge. How does China's relatively weaker rule of law environment coexist with its globally acclaimed economic growth? To address this question, this paper will undertake a micro-level analysis to examine how the performance of manufacturing companies listed in China, serving as a driving force behind its economic development, is impacted by the rule of law environment in their respective regions.

This paper collects data from manufacturing companies listed on the Shanghai and Shenzhen stock exchanges from 2012 to 2019. Utilizing the per capita number of lawyers in regions as a proxy variable for the regional rule of law environment, this study examines the influence of the regional rule of law environment on the operational performance of listed manufacturing companies in China. Furthermore, it conducts an analysis of enterprise heterogeneity by grouping regression based on corporate property rights, investigating the heterogeneity of the impact of regional rule of law environments on state-owned and private enterprises. Additionally, it explores differences in the impact on corporate performance caused by varying levels of the rule of law environment. In comparison to previous research, this study's incremental contribution primarily lies in its exploration of hierarchical differences within the rule of law environment. By separately discussing municipal-level and provincial-level rule of law environment variables, it uncovers the potential influence of judicial hierarchy on research outcomes. Existing domestic literature in China has mainly focused on the hierarchical measurement of the rule of law environment, with mainstream rule of law indices evaluated at the provincial level. Limited availability of municipal-level rule of law indices contradicts China's civil adjudication system, where the 'two-level final judgment system' is in place. Consequently, similar studies predominantly employ provincial-level rule of law environments for macro-level analysis. This paper is the first to highlight the potential impact of hierarchical variations within the rule of law environment on research outcomes and conducts exploratory research at the municipal level by independently gathering data.

## 2. Review of Literature and Research Hypotheses

### 2.1. Measurement of the Rule of Law Environment and Potential Impact Mechanisms

Considerable research has been devoted to examining the determinants underlying the rule of law. Dam[3] specifically delves into the connection between the rule of law and economic development through the lens of institutional economics, offering a theoretical framework to conceptualize the rule of law. The author commences by defining the rule of law as

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encompassing legal institutions and legal rules. Legal institutions encompass the executive, legislative, and judicial branches, along with the dynamics between the legal framework and economic agents. Legal rules pertain to the substance of legal regulations and the interactions among these economic agents. Within the realm of legal institutions, a pivotal inquiry revolves around the adherence of state actions and government courts to the rule of law. Within the domain of legal rules, the central concern is whether economic actors that operate above the law and enjoy privileges cause harm to the rights and interests of other general economic entities.

Numerous empirical investigations into the rule of law employ diverse proxy variables to quantify the rule of law environment. In the Chinese context, while the level of the rule of law still lags behind that of more developed nations, the central government remains committed to bolstering the rule of law, fostering numerous studies exploring the nexus between the rule of law environment and the economy. Notably, research institutions and regulatory bodies endeavour to quantitatively assess the level of the rule of law within various regions. The Centre of Cooperative Innovation for Judicial Civilization, established by prominent Chinese political science and law universities, stands as a significant example. Since its inception in 2014, this organization has employed provincial-level administrative divisions as discrete evaluative units, systematically assessing and releasing annual reports on the rule of law and judicial civilization within each administrative region throughout the country. Another authoritative research entity, the Institute of Law at the Chinese Academy of Social Sciences, issues an annual "Report on the Development of the Rule of Law in China[14]." Within this report is the "China Judicial Transparency Index Report - From the Perspective of Information Disclosure on Court Websites," which quantifies local judicial transparency and the rule of law level through the lens of information disclosure by local courts. Notably, Pan, Pan, and Dai[15] employ this indicator as a proxy variable for local judicial protectionism. Professor Fan Gang's "Report on Marketization Index by Province in China[16]" features another index frequently encountered in the examination of the rule of law. A segment of this market-oriented index, the "Development of Market Intermediary Organizations and the Rule of Law Environment Index," is frequently employed as a proxy variable representing the rule of law environment. Noteworthy applications include Jiang's utilization of this index[17], uncovering its impact on the capital structure of listed companies through creditor protection. Furthermore, Liu and Pan[18] employ this index in their exploration of the legal environment's influence on corporate bond credit risk.

In tandem with regional legalization indices disseminated by select research bodies, certain scholars have devised distinct methodologies for quantifying the rule of law environment. For instance, Li[19], in a study investigating the legal environment's effect on the efficiency of listed companies in China's manufacturing sector, employs the number of lawyers per capita as a proxy variable representing the rule of law environment. Similarly, in an analysis of the connection between the rule of law environment and local environmental pollution[20], the number of land violation cases serves as a proxy variable for the local legal environment.

Currently, research on the transmission mechanisms of the rule of law environment on economic development remains relatively limited, with existing studies primarily focusing on macro-theoretical and micro-enterprise dimensions. Cai[21] examined the impact of legal environment and ownership structure on firm investment efficiency, finding that the rule of law environment influences investment efficiency by altering firms' investment behaviours, manifested as either overinvestment or underinvestment. The choice of investment depends on the firm's ownership structure. This is attributed to the fact that a favourable rule of law environment enhances corporate governance, effectively mitigating the adverse consequences of information asymmetry, ultimately optimizing investment efficiency by alleviating financing

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constraints. Additionally, legal protections acquired by investors also play a role in alleviating financial constraints faced by companies.

## 2.2. Current Research Literature on Firm's Performance

Given that our study focuses on the impact on firm performance, it is necessary to analyse the primary significant factors influencing firm performance in order to identify the potential pathways through which control variables and the rule of law environment at the firm's level affect firm performance. Scholars have extensively researched this field, and their studies can be broadly categorized into two main directions: the external environment and the internal organizational factors under the behavioural and sociological paradigm.

Regarding external market factors, although there is extensive research on the relationship between the external environment and firm performance, most models established in these studies predominantly encompass the following variables: (1) characteristics of the industry in which the company operates; (2) the relative position of the company compared to its industry competitors; (3) the quantity and quality of available resources[5,22]. Consequently, market force variables such as average industry return on assets (ROA) and relative market share variables, reflecting industry characteristics, can effectively represent external environmental factors influencing firms. In the realm of market share studies, BCG[23] introduced relative market share variables within various analytical tools like the BCG Matrix. Furthermore, in the field of industrial organization, Shepherd[24] defined market share as a part of market position and analyzed the correlation between market position components and firm profitability.

Regarding internal enterprise factors, cash flow, as a crucial resource, significantly impacts a company's financial performance. Kroes and Manikas[6] decomposed company cash flow into three components: accounts receivable cash, inventory holdings, and cash paid to suppliers, finding that reductions in accounts receivable and inventory improved the company's financial situation. Over several consecutive quarters, performance has been assessed through cash flow.

Research and development (R&D) expenditure, as one of the pivotal areas supporting company performance, accounts for a larger proportion of total spending in industries like manufacturing and high technology, surpassing advertising and capital expenditures. Hirschey, Skiba, and Wintoki[25] discovered that R&D serves as a source of product differentiation among industrial firms. Even during macroeconomic slowdowns and economic crises, most companies have not decreased their R&D intensity. Peterson and Jeong[8] connected R&D investment with corporate performance growth, finding a correlation between larger R&D expenditure and increased brand value, which consequently led to improvements in company and financial performance metrics. Chauvin and Hirschey[26], through a valuation effect study, examined the impact of R&D expenditure on company market value and investors' expectations of the company's potential future cash flows. As R&D expenditure translates into intangible assets in the future, it is also regarded as an investment in intangible assets, a particularly evident effect in the valuation of manufacturing industries.

Capital structure also determines the resources available to a company. Leverage reflects a company's utilization of debt financing and is an integral part of the capital structure, enabling companies to control resources larger than their equity, allowing high-level investments through borrowing and achieving higher returns on equity. Abdullah and Tursoy[27], based on nearly 20 years of data from German non-financial companies listed since 1993, discovered a positive relationship between leverage, used as a proxy variable for capital structure, and firm performance. The research found that the growth in a company's financial performance might stem from the tax shield benefits obtained from debt financing, resulting in lower costs of debt issuance compared to equity financing. Additionally, the high leverage in a company's financial environment compels company operators to focus on more profitable target investments.

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Concerning organizational factors, the structure of a company's board of directors is considered a crucial factor, and all companies establish a board of directors in accordance with the law. While Hermalin and Weisbach[28] conducted research on past empirical literature concerning the board of directors and found, based on empirical studies of US companies, that the composition of the board was unrelated to company performance, Yu et al.[11] tested the relationship between board structure and company performance based on data from Chinese listed companies. They defined board independence as the proportion and number of independent directors within the board, discovering a significant positive impact of board independence on firm performance. Furthermore, Yu et al. also found that smaller board sizes positively impacted company performance, while state ownership had a significantly negative effect on firm performance. As the market system reform in our country has yet to be completed, non-market factors influence business operations through equity structure and board structure. Therefore, it is necessary to consider these specific institutional factors.

### 2.3. Research Design

Although some scholars have identified a positive relationship between improvements in the rule of law environment and economic growth, as well as the mechanisms and evidence of the impact of the rule of law environment on firm investment behaviour[21], a more prevalent body of research highlights the affirmative effects on the performance of Chinese listed companies attributed to local government's judicial protectionism and collusive interactions with local enterprises[15,20]. The judicial protectionism exhibited by local governments often emerges as a chief source within regions characterized by unfavourable legal governance. Consequently, it can be posited that in areas where the rule of law environment is particularly adverse, companies are more prone to reap benefits by colluding with the government within this unfavourable legal framework. Derived from these premises, the present study introduces the ensuing theoretical research hypothesis:

Hypothesis 1: The more deteriorated the rule of law environment within a company's geographical domain, the more pronounced the facilitating effect of collusive interactions between local governments and enterprises on firm performance.

Furthermore, owing to the distinctive nature and political and societal responsibilities of state-owned enterprises (SOEs), their impetus toward achieving elevated corporate performance is not considerably vigorous. Moreover, SOEs may actively compromise their performance due to their responsibility in fulfilling political mandates from higher-tier government bodies[29]. Such unique characteristics and relatively diminished sensitivity toward performance incentives render SOEs less motivated to engage in collusive relationships with local governments. Consequently, the following hypothesis is posited:

Hypothesis 2: State-owned listed enterprises do not exhibit a significant phenomenon of performance enhancement resulting from collusive interactions with the government attributed to a subpar rule of law environment.

## 3. Sample Selection and Model Design

### 3.1. Sample Selection

We start the sample collection process with all the listed companies in the manufacturing industry on the Shanghai and Shenzhen Stock Exchanges for the period of 2012 to 2019. Financial statements, board composition and ownership structure are collected from the Chinese Securities Market and Accounting Research (CSMAR) Database, which is also the leading provider of data for Chinese companies. In addition, macro data on 31 provincial-level administrative regions, such as the number of lawyers per capita, were compiled from the Ministry of Justice of the People's Republic of China, the provincial departments of justice, the

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Chinese Law Yearbook, and the provincial statistical yearbooks. This study did not include data from 2019-2022 in order to avoid Covid-19 effects on trade that would bias the results. We excluded ST companies and delisted companies from the sample and truncate all variables measures by 1% at both tails. The final sample with the necessary data consists of 8283 firm years by 1609 firms.

In addition, to conduct the study at the city level, we also collected data on listed companies registered in Shandong Province and listed on the Shanghai and Shenzhen stock exchanges. To expand the sample size, we selected all listed companies, not just manufacturing listed companies. The data source is the same as the above provincial-level data source, but the per capita lawyer data of Shandong Province is obtained from the information of practicing lawyers registered on the Shandong Legal Service Network (sponsored by the Department of Justice of Shandong Province). In order to avoid extreme outliers, we removed the sample of listed companies within the administrative division merger involving the region. The final sample with the necessary fata consists of 974 firm years by 176 unique firms.

## 3.2. Methodology

We use company-level panel data, and there are 14 variables (i=1,2, ....., 14) in the cross-sectional dimension of panel data; In the time dimension, there are 9 years of data in the panel (t=1,2, ....., 9). Therefore, the panel data we use conforms to the characteristics of the short panel. In addition, since some listed companies were listed and traded after 2012, not all samples have the same observation point at the same time, and the panel data we use is not a balanced panel, but an unbalanced panel. Fortunately, the reason for this non-balanced panel is random because there are no major changes in the listing rules from 2012 to 2019 that will not affect the listing time of listed companies, so the method we use next will not affect the balance of the data.

We will utilize a fixed effects model to control for errors. Through a well-structured model setup, it is possible to manage unobservable factors within individuals that do not vary over time, obtaining unbiased estimation results for the model. This study employs within-group difference estimation, taking individual averages for all variables, and utilizes within-group difference transformation to eliminate unobservable fixed effects, obtaining within-group difference estimators. Moreover, individual performances might be affected not only by individual differences but also by annual characteristics of the data, such as macroeconomic conditions for each year. Therefore, we will introduce time fixed effects into the model to control for the absence of variables that do not change across individuals but vary over time. This model, which simultaneously controls for individual fixed effects and time fixed effects, is also known as a two-way fixed effects model. Each period in the model can be directly defined as a dummy variable, and T-1 dummy variables for each time period can be added to the regression equation to control for time fixed effects. This process can be represented as:

$$\boldsymbol{Y_{it}} = \boldsymbol{X_{it}}'\boldsymbol{\beta} + \boldsymbol{Z'}_i\boldsymbol{\gamma} + \alpha_i + u_{it} + \lambda_t d_t$$

Among them, $d_t$is time dummy variables, and $\lambda_t d_t$ can be regarded as an intercept term unique to the t period, and can be interpreted as the effect of "t period" on the interpreted variable y. In Stata, we can easily form dummy variables of the year using the tab year, gen (year) commands.

Specific to the models involved in this study, we will build a firm fixed-effect model based on companies as individuals to control for the fixed effects caused by firm differences, and conduct more research based on this. Our firm-effect regression model for benchmarking the impact of regional rule of law environments on firm performance is:

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$$\boldsymbol{Performance_{it}} = \boldsymbol{\gamma} * \boldsymbol{AvgLawyer} + \boldsymbol{\beta} * \boldsymbol{Control_{it}} + \alpha_i + \varepsilon_{it}$$

The Two-way Fixed Effect model with the addition of a time-fixed effect is:

$$\boldsymbol{Performance_{it}} = \boldsymbol{\gamma} * \boldsymbol{AvgLawyer_{it}} + \boldsymbol{\beta} * \boldsymbol{Control_{it}} + \lambda_t d_t + \alpha_i + \varepsilon_{it}$$

Firm performance (Performance) is measured by ROA. AvgLawyer is our key variable of the whole research. Control is a vector of firm-specific variables which has been described in Section 3.1 that has been partially shown by the literature review to be a variable related to firm performance that is meaningful in theory or empirically in other studies. $\alpha_i$ are variables that are not observable and do not change over time and can be denoted firm fixed effects. $\lambda_t d_t$ denote year fixed effects. $\varepsilon_{it}$ is the error term. We use firm-level cluster robust standard errors to identify the significance of the data to control for sequence correlation and heteroscedasticity phenomena that may occur in the data.

## 3.3. Variables Description

**Table 1.** Variable description

| Panel A: Performance measures | Variable Description |
|---|---|
| ROA | ROA |
| | |
| Panel B: The Rule of law | |
| Avglawyer | Average number of lawyers per million |
| | |
| Panel C: Control variables | |
| FirmSize | Log Asset |
| StaffNumber | Number of staffs in the firm |
| Leverage | Leverage Ratio |
| AssetTurn | Asset Turnover |
| Cashflow | Cash Flow |
| RDSpendSumRatio | Ratio of R&D investment to operating income |
| CapexpCashflowRatio | Ratio of capital expenditure to cash flow |
| Boardsize2 | number of directors |
| IndDirectorRatio | proportion of independent directors |
| PropertyRightsNature | Whether state-owned enterprise |
| Estbdt1 | How many years the firm established |
| HHI_D | Herfindahl-Hirschman Index |

There are 12 control variables we will use, including the size of company measured in terms of total assets (FirmSize), the number of employees in the company (StaffNumber), leverage ratio (Leverage), asset turnover ratio (Asset Turn), company's cashflow at the end of the accounting year (Cashflow), R&D expenditure as a percentage of all expenditure (RDSpendSumRatio), Capital expenditure as a percentage of all expenditure (CapexpCashflowRatio), the number of people on the board (Boardsize2), independent directors make up the proportion of the board (IndDirectorRatio), the length of time the company has been in business (Estbdt1), The company's market share in the industry (HHI_D). There is also a dummy variable that reflects the ownership of the company (PropertyRights Nature). When the value of the dummy variable is 1, the company belongs to State-Owned Enterprise (SOE), and if the value of the dummy variable is 0, the company belongs to a private enterprise. These control variables have all been

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shown in literature reviews to have a potential impact on firm performance. Table 1 shows the correspondence between variable names and variable descriptions.

# 4. Main Results

## 4.1. Descriptive Statistical Results

**Table 2.** Data overview

| Variable | Obs | Mean | Std Error | 25th Pctl | Median | 75th Pctl |
|---|---|---|---|---|---|---|
| **Panel A: Performance measures** | | | | | | |
| *ROA* | 10,291 | 0.0440 | 0.0533 | 0.0164 | 0.0418 | 0.0738 |
| | | | | | | |
| **Panel B: The Rule of law** | | | | | | |
| *AvgLawyer* | 10,226 | 337.5 | 255.8 | 192.5 | 259 | 359.7 |
| | | | | | | |
| **Panel C: Control variables** | | | | | | |
| *Estbdt1* | 10,322 | 16.91 | 5.069 | 13 | 17 | 20 |
| *PropertyRightsNature* | 10,261 | 0.287 | 0.452 | 0 | 0 | 1 |
| *FirmSize* | 10,293 | 21.88 | 1.066 | 21.09 | 21.75 | 22.52 |
| *Cashflow* | 10,472 | 4.02E+08 | 1.47E+09 | 2.08E+07 | 1.06E+08 | 3.22E+08 |
| *RDSpendSumRatio* | 10,082 | 5.157 | 5.685 | 3.01 | 4.07 | 5.94 |
| *Leverage* | 10,291 | 1.808 | 0.798 | 1.282 | 1.559 | 2.052 |
| *AssetTurn* | 10,289 | 0.582 | 0.274 | 0.387 | 0.532 | 0.721 |
| *StaffNumber* | 10,287 | 3,774 | 5,629 | 13 | 17 | 20 |
| *Boardsize2* | 10,409 | 8.386 | 1.458 | 0 | 0 | 1 |
| *IndDirectorRatio* | 10,372 | 37.36 | 5.068 | 923 | 1881 | 4181 |
| *HHI_D* | 10,288 | 0.106 | 0.0875 | 0.044 | 0.0687 | 0.135 |
| *CapexpCashflowRatio* | 10,280 | 0.847 | 2.857 | 0.128 | 0.528 | 1.263 |

Table 2 shows the mean, standard deviation, lower quartile, median, upper quartile and other statistics of ROA, the number of lawyers per million population in the provincial administrative region where the company is located, and other control variables of the sample listed companies from 2012 to 2019. Statistics show that the average ROA of listed Chinese manufacturing companies from 2012 to 2019 was 4.4%, and less than 50% of companies can achieve such good corporate performance by comparing with the median.

## 4.2. Related Test Results

### 4.2.1. Hausman Test Result

In order to correctly use the fixed-effect model, we also need to perform a Hausman test on our panel data to determine whether to use a fixed-effect model or a random-effects model.

Through the result of the Hausman test in Table 3, we found that the individual effects set by the model are indeed related to the explanatory variables, since Hausman statistics is significant at 1% significance level. As a result, we use the fixed-effect model correctly and will get a consistent $\hat{\beta}^{FE}$ estimator.

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**Table 3.** Hausman test result

| *Variables* | Hausman |
|---|---|
| *AvgLawyer* | -0.0000034 |
| | -0.0000031 |
| *FirmSize* | 0.0035445*** |
| | -0.0009745 |
| *Leverage* | -0.0251130*** |
| | -0.0008974 |
| *AssetTurn* | 0.0568556*** |
| | -0.0025579 |
| *RDSpendSumRatio* | -0.0013530*** |
| | -0.0001741 |
| *Cashflow* | 0.0000000*** |
| | 0 |
| *IndDirectorRatio* | 0.0001329 |
| | -0.0001459 |
| *Boardsize2* | 0.0011162** |
| | -0.0005531 |
| *Estbdt1* | -0.0012343*** |
| | -0.0001463 |
| *PropertyRightsNature* | -0.0109244*** |
| | -0.0019683 |
| *StaffNumber* | -0.0000006*** |
| | -0.0000002 |
| *HHI_D* | -0.0181482** |
| | -0.0086476 |
| *CapexpCashflowRatio* | 0.0001501 |
| | -0.0001422 |
| *Constant* | 0.0022516 |
| | -0.0217298 |
| *Observations* | 8283 |
| *Number of cd* | 1609 |
| *Hausman* | 384.9 |
| *p-value* | 0 |

### 4.2.2. Multicollinearity Test Result

Multicollinearity refers to a situation where one independent variable can be represented linearly by other independent variables. When the data have severe collinearity, it will have a greater impact on the linear regression estimation. To ensure that our data are free of multicollinearity issues, we use the variance inflation factor (VIF) to test the collinearity of the data.

The closer the variance inflation factor is to 1, there is few correlations between the variables. When the variance inflation factor is greater than 5, a high correlation between variables is generally considered. The variance inflation factors for each variable are listed in Table 6, and the results reveal that they are all less than 5, which means that multicollinearity has not had an impact on the data we used. Table 7 also includes the correlation matrix for each variable

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used in the ensuing regression analysis. To allay any worries regarding multicollinearity, none of the independent variables have correlation coefficients more than 0.5 in absolute terms.

**Table 4.** Hausman test result

| Variable | VIF | 1/VIF |
|---|---|---|
| FirmSize | 2.45 | 0.408 |
| StaffNumber | 2.21 | 0.452 |
| Boardsize2 | 1.64 | 0.61 |
| IndDirecto~o | 1.5 | 0.668 |
| Cashflow | 1.44 | 0.694 |
| Leverage | 1.34 | 0.747 |
| PropertyRi~e | 1.23 | 0.811 |
| AssetTurn | 1.22 | 0.817 |
| RDSpendSum~o | 1.18 | 0.845 |
| Estbdt1 | 1.08 | 0.922 |
| HHI D | 1.07 | 0.935 |
| AvgLawyer | 1.03 | 0.971 |
| CapexpCash~o | 1.01 | 0.994 |

## 4.3. Regression Result Analysis

### 4.3.1. Do the Rule of Law Affect Firm Performance?

Just like table 5 illustrates, the hypothesis 1 is confirmed by the regression result. An increase of 100 lawyers per million leads to a statistically significant decrease of 28.3-basis-point in ROA. This effect economically meaningful as the mean values of ROA in our sample is 4.4%. This result corroborates the conclusion of Pan (2015). He pointed out that the phenomenon of local judicial protection exists in areas where the rule of law environment is relatively backward, and local governments in these areas often interfere in court adjudication work for the purpose of safeguarding the development of enterprises in their jurisdiction, providing improper advantages to enterprises within their jurisdiction. This interpretation is consistent with our findings, that is, where the number of lawyers per capita is low, the rule of law environment is poor, and the phenomenon of local judicial protection of enterprises by local governments contributes to the performance of listed companies in areas with backward rule of law environment; When the local legal environment rises, enterprises in areas with better rule of law can no longer gain similar undue advantages in court trials, so these listed companies in areas with better rule of law have lower ROAs than companies with poor rule of law environments.

In addition, Liang and Gao[20] also proposed the "government-enterprise collusion" mechanism, which explains the possible special protection of local enterprises by local governments from the relationship between local official promotion and local economic development, and such collusion between local governments and enterprises has also been confirmed in the study of Bardhan and Mookherjee[30]. Local governments are vulnerable to local elites capturing in high-poverty regions. And those listed companies, which are the backbone of the region's top economy, should rightfully be included in the theoretical framework of elite capture of local government.

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**Table 5.** Result of testing the hypothesis 1

| Variables | ROA | ROA |
|---|---|---|
| AvgLawyer | -0.0000434*** | -0.0000283* |
| | (-2.91) | (-1.77) |
| FirmSize | 0.0166324*** | 0.0162321*** |
| | (6.00) | (5.86) |
| Leverage | -0.0232309*** | -0.0227814*** |
| | (-10.01) | (-9.87) |
| AssetTurn | 0.0759326*** | 0.0775716*** |
| | (12.04) | (11.96) |
| RDSpendSumRatio | -0.0031790*** | -0.0030671*** |
| | (-7.57) | (-7.31) |
| Cashflow | 5.82e-12 *** | 6.03e-12*** |
| | (5.15) | (5.21) |
| IndDirectorRatio | 0.0001773 | 0.0002042 |
| | (0.76) | (0.88) |
| Boardsize2 | 0.0008476 | 0.0010301 |
| | (0.85) | (1.04) |
| Estbdt1 | -0.0024017*** | -0.0026613*** |
| | (-3.96) | (-4.25) |
| PropertyRightsNature | -0.0039565 | -0.0037154 |
| | (-0.57) | (-0.54) |
| StaffNumber | -0.0000011*** | -0.0000012*** |
| | (-3.00) | (-3.11) |
| HHI_D | -0.0115421 | -0.0121268 |
| | (-0.61) | (-0.64) |
| CapexpCashflowRatio | 0.0001787 | 0.0001992 |
| | (1.18) | (1.31) |
| | | |
| Year | | |
| 2013 | - | 0.0014893 |
| | | (1.17) |
| 2014 | - | 0.0031585** |
| | | (2.12) |
| 2015 | - | 0.0008814 |
| | | (0.58) |
| 2016 | - | 0.0044872 *** |
| | | (3.20) |
| 2017 | - | 0.00127*** |
| | | (4.23) |
| 2018 | - | -0.0006879 |
| | | (-0.53) |
| 2019 | - | 0 |
| | | (Omitted) |
| Constant | -0.2585030*** | -0.2571168*** |
| | (-4.58) | (-4.54) |
| | | |
| Observations | 8,283 | 8,283 |
| R-squared | 0.190 | 0.194 |
| Company FE | YES | YES |
| Year FE | NO | YES |
| Robust t-statistics in parentheses | | |
| *** p<0.01, ** p<0.05, * p<0.1 | | |

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### 4.3.2. Does the Attribute of Property Rights of Enterprises Affect the Impact of the Rule of Law Environment on Corporate Performance?

Qi, Wu, and Zhang[12] noted that the state-owned enterprise attributes of certain Chinese listed companies exert a negative influence on corporate performance, as assessed by Return on Equity (ROE). Although our preceding regression findings do not distinctly substantiate this assertion, it raises the question of whether state ownership could potentially mediate the impact of regional rule of law environments on corporate performance. To scrutinize Hypothesis 2, we propose employing a group regression approach. This involves categorizing the complete set of listed companies into state-owned enterprises and private enterprises, subsequently applying the same variables as those in the primary regression. The outcomes of this analysis are presented in Table 6:

**Table 6.** Result of testing the hypothesis 2

| | (1) | (2) | (3) |
|---|---|---|---|
| Variables | ROA | ROA | ROA |
| AvgLawyer | -0.0000337* | 0.0000043 | -0.0000283* |
| | (-1.74) | (0.17) | (-1.77) |
| FirmSize | 0.0179915*** | 0.0156470*** | 0.0162321*** |
| | (5.07) | (4.15) | (5.86) |
| Leverage | -0.0243405*** | -0.0179022*** | -0.0227814*** |
| | (-7.30) | (-6.18) | (-9.87) |
| AssetTurn | 0.0833582*** | 0.0670630*** | 0.0775716*** |
| | (10.12) | (7.04) | (11.96) |
| RDSpendSumRatio | -0.0032313*** | -0.0025290*** | -0.0030671*** |
| | (-6.53) | (-3.24) | (-7.31) |
| Cashflow | 1.12e-11*** | 2.33e-12** | 6.03e-12*** |
| | (5.86) | (2.16) | (5.21) |
| IndDirectorRatio | 0.0004433* | -0.0004587 | 0.0002042 |
| | (1.82) | (-1.03) | (0.88) |
| Boardsize2 | 0.0015591 | 0.0005833 | 0.0010301 |
| | (1.31) | (0.38) | (1.04) |
| Estbdt1 | -0.0036396*** | -0.0016317* | -0.0026613*** |
| | (-4.64) | (-1.77) | (-4.25) |
| PropertyRightsNature | - | - | -0.0037154 |
| | - | - | (-0.54) |
| StaffNumber | -0.0000012** | -0.0000014** | -0.0000012*** |
| | (-2.43) | (-2.54) | (-3.11) |
| HHI_D | 0.0165952 | -0.0749223** | -0.0121268 |
| | (0.74) | (-2.35) | (-0.64) |
| CapexpCashflowRatio | 0.0001885 | 0.0003321 | 0.0001992 |
| | (1.11) | (1.01) | (1.31) |
| Year FE | | | |
| 2013 | 0.0011604 | 0.0020761 | 0.0014893 |
| | (0.74) | (0.92) | (1.17) |
| 2014 | 0.0040637** | 0.000252 | 0.0031585** |

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| | | | |
|---|---|---|---|
| | (2.26) | (0.10) | (2.12) |
| 2015 | 0.0031525 | -0.0051231 | 0.0008814 |
| | (1.74) | (-1.98) | (0.58) |
| 2016 | 0.0053079*** | 0.0001092** | 0.0044872 *** |
| | (3.30) | (0.04) | (3.20) |
| 2017 | 0.0051271*** | 0.004699* | 0.00127*** |
| | (3.46) | (1.88) | (4.23) |
| 2018 | -0.0016666 | .003316 | -0.0006879 |
| | (-1.09) | (1.41) | (-0.53) |
| 2019 | 0 | 0 | 0 |
| | (Omitted) | (Omitted) | (Omitted) |
| Constant | -0.2911937*** | -0.2537580*** | -0.2571168*** |
| | (-4.15) | (-3.08) | (-4.54) |
| | | | |
| Observations | 6,096 | 2,187 | 8,283 |
| Number of cd | 1,268 | 398 | 1609 |
| R-squared | 0.221 | 0.175 | 0.194 |
| Company FE | YES | YES | YES |
| Year FE | YES | YES | YES |
| Robust t-statistics in parentheses | | | |
| *** p<0.01, ** p<0.05, * p<0.1 | | | |

Column (1) of Table 6 presents regression results wherein RropertyRightsNature is set to 0, signifying the influence of the legal environment on the performance of China's privately-owned manufacturing listed companies. The outcomes reveal a negative correlation between the local legal environment and the performance of these private manufacturing listed companies. Strikingly, as the local legal environment improves, the performance of private manufacturing listed companies diminishes. Notably, attention is drawn to the coefficient of the proportion of independent directors on the board of directors. While this coefficient lacks significance within the overall sample of listed manufacturing companies in China (as demonstrated in column (3)), it takes on a positive significance level of 10% when the analysis is limited to private listed companies.

Moving to column (2) of Table 6, the regression outcome is displayed when RropertyRightsNature is designated as 1, representing the impact of the legal environment on the performance of China's state-owned manufacturing listed companies. Remarkably, the findings indicate an absence of a substantial relationship between the performance of state-owned manufacturing listed companies and the regional rule of law environment, thereby confirming Hypothesis 2.

A juxtaposition of the results in columns (1) and (2) underscores the divergent impact of the legal environment on enterprises with distinct ownership structures. The performance of private enterprises appears to be more susceptible to regional legal conditions than their state-owned counterparts. This substantiates our previous argument regarding the inverse relationship between the rule of law environment and corporate performance. Additionally, this finding aligns with the "corporate-government collusion" model expounded by Pan[15] and Liang and Gao[20], highlighting the phenomenon of judicial protection afforded to companies by local governments through collusion. This underscores the potential issue of

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judicial arbitrage encountered by private enterprises in China. The collusion between private enterprises and governments in regions characterized by weak rule of law allows these enterprises to benefit from local judicial protection, thereby bolstering their performance.

Intriguingly, state-owned enterprises do not exhibit a similar propensity for local judicial protection. This can potentially be attributed to the unique nature and distinctive performance objectives of Chinese state-owned enterprises, often referred to as the "modern state-owned enterprise system with Chinese characteristics" by the State Council of China. Chang and Lin's study[29] on Politically Compliant characteristics of Chinese state-owned enterprises revealed that while the performance of state-owned enterprises that prioritize political compliance might deteriorate, these enterprises tend to accomplish political tasks or meet political objectives to a high standard. When the rule of law becomes a political objective, state-owned enterprises may relinquish excessive corporate profits secured through enterprise-government collusion to align with rule of law compliance.

The explanation for this distinction might be traced back to the social and political entity attributes inherent to state-owned enterprises, as interpreted by Xiao and Shen[31]. These attributes prompt state-owned enterprises to not only pursue economic responsibilities but also social and political responsibilities. Consequently, when the pursuit of the rule of law aligns with political objectives, state-owned enterprises might willingly forgo extra profits derived from collusion with local governments, all in the service of rule of law compliance.

### 4.4. Does the Rule of Law Environment at the Municipal Level, but not at the Provincial Level, Affect Firm Performance?

Presently, the majority of research pertaining to China's legal environment remains constrained within the purview of provincial administrative regions. However, this approach might not align seamlessly with China's civil trial system, particularly the finality of the second-instance decision-making process. This implies that most cases are adjudicated at the primary court within the jurisdiction of the county-level administrative region. The option for retrial rests with the dissatisfied party and is facilitated through application to the high court under the umbrella of the provincial administrative region. The initiation of a retrial procedure, though, is contingent upon the high court judge's discretion. In practice, the intermediate courts under the jurisdiction of city-level administrative regions often competently adjudicate cases, leading to minimal instances of cases being elevated to the high court for retrial. Consequently, it's reasonable to assume that a majority of cases are concluded within these intermediate courts.

An intriguing consideration emerges: can the rule of law environment, characterized by the judicial system primarily governed by intermediate courts within city-level administrative regions, serve as a suitable proxy for the rule of law environment indicated by the provincial administrative region? Is it more pertinent to measure the rule of law environment at the municipal level rather than the provincial level? This requires further exploration. Unfortunately, widely employed proxy variables for the legal environment are predominantly at the provincial level. Additionally, comprehensive municipal-level legal environment indices and data remain elusive, mirroring a similar scenario for core macro data.

However, there's a silver lining in the form of collected municipal-level legal environment data for certain cities, albeit through specialized methodologies. This provides an opportunity for a straightforward empirical endeavour. Our empirical research endeavours to utilize municipal-level legal environment data to investigate the nexus between regional rule of law environments and firm performance. This localized approach bypasses the provincial level. Due to data constraints, the investigation is confined to 16 cities within Shandong Province, rather than the broader scope of 336 cities across the nation. Notably, the legal environment in each

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city is gauged using the number of lawyers per capita as a proxy variable, derived from the registry of lawyers practicing under the aegis of the Shandong Provincial Department of Justice.

To broaden the scope of listed company samples, we dispense with the restriction to solely manufacturing firms, encompassing all listed companies within Shandong Province. This process adheres to previous sample selection methodologies observed in provincial-level studies. The exclusion of ST companies and delisted entities from the sample is upheld, along with truncation of all variables at the 1% tails. Consequently, the final dataset incorporates 1095 firm-years originating from 180 firms. Control variables mirrored those employed in the provincial-level analysis.

Collinearity tests conducted on the municipal-level research data attest to its validity, revealing minimal collinearity across variables. Hausman test outcomes advocate for the utilization of a fixed effects (FE) model over a random effects (RE) model. Following a model consistent with provincial-level investigations, regression analysis yields the ensuing outcomes:

**Table 7.** Result of municipal level research

| | (1) | (2) |
|---|---|---|
| Variables | ROA | ROA |
| AvgLawyer | 0.0036589 | -0.0000283* |
| | (0.40) | (-1.77) |
| FirmSize | 0.0156461 | 0.0162321*** |
| | (1.58) | (5.86) |
| Leverage | 0.0000875 | -0.0227814*** |
| | (0.26) | (-9.87) |
| AssetTurn | 0.0745379*** | 0.0775716*** |
| | (2.92) | (11.96) |
| RDSpendSumRatio | -0.0019518 | -0.0030671*** |
| | (-1.13) | (-7.31) |
| Cashflow | 0.0000000*** | 6.03e-12*** |
| | (2.96) | (5.21) |
| IndDirectorRatio | 0.0000038 | 0.0002042 |
| | (0.00) | (0.88) |
| Boardsize2 | -0.0026276 | 0.0010301 |
| | (-0.83) | (1.04) |
| Estbdt1 | -0.0055017** | -0.0026613*** |
| | (-2.29) | (-4.25) |
| PropertyRightsNature | -0.0132421* | -0.0037154 |
| | (-1.71) | (-0.54) |
| StaffNumber | -0.0000008 | -0.0000012*** |
| | (-0.94) | (-3.11) |
| HHI_D | 0.0898085 | -0.0121268 |
| | (1.42) | (-0.64) |
| CapexpCashflowRatio | 0.0000648 | 0.0001992 |
| | (0.53) | (1.31) |
| | | |
| Year | | |

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| | | |
|---|---|---|
| 2013 | -0.0052233 | 0.0014893 |
| | (-1.07) | (1.17) |
| 2014 | -0.0024458 | 0.0031585** |
| | (-0.44) | (2.12) |
| 2015 | -0.0005069 | 0.0008814 |
| | (-0.09) | (0.58) |
| 2016 | 0.0104214 | 0.0044872 *** |
| | (1.82) | (3.20) |
| 2017 | 0.0094677 | 0.00127*** |
| | (1.53) | (4.23) |
| 2018 | -0.006409 | -0.0006879 |
| | (-0.82) | (-0.53) |
| 2019 | 0 | 0 |
| | (Omitted) | (Omitted) |
| Constant | -0.2453804 | -0.2571168*** |
| | (-1.24) | (-4.54) |
| | | |
| Observations | 1,095 | 8,283 |
| R-squared | 0.088 | 0.194 |
| Company FE | YES | YES |
| Year FE | YES | YES |
| Robust t-statistics in parentheses | | |
| *** p<0.01, ** p<0.05, * p<0.1 | | |

Among them, column (1) in Table 10 represents research investigating the influence of the municipal-level legal environment on the performance of listed companies within Shandong Province. Analysing the regression outcomes, a notable observation emerges when juxtaposing these results with those obtained from the provincial-level legal environment impact on Chinese manufacturing listed companies, as depicted in column (2). Specifically, the municipal-level legal environment, characterized by the number of lawyers per capita, no longer exhibits a statistically significant impact on the Return on Assets (ROA) of listed companies. Equally noteworthy is the attenuation in significance for certain control variables, such as Leverage and Staff Number, which no longer maintain a significant relationship with firm performance.

In summary, our findings suggest that the city-level legal environment, as represented by the number of lawyers per capita, no longer exerts a discernible impact on the performance of listed companies in Shandong Province. The observed discrepancy can likely be attributed to the limitation of our small sample size. Data availability constrained our research scope and data acquisition, potentially resulting in insignificant phenomena due to the reduced number of samples. Another plausible explanation is related to the flexibility of the Chinese lawyer practice system, which permits lawyers to practice across cities without restriction. Lawyers are free to register with the judicial bureau of one city and simultaneously engage in legal proceedings in other cities. Under this premise, the mobility of lawyers between municipal cities could induce convergence in the legal environment at the municipal level. This particular phenomenon, however, remains unmeasurable by the proxy variable of the number of lawyers per capita that we employ.

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While it is conceivable that our utilized proxy variable may also be influenced by inter-provincial mobility of lawyers, the objective limitations imposed by geographical distances on such mobility between provinces make this phenomenon relatively less pronounced compared to inter-city lawyer mobility. The scarcity of liquidity in cross-province lawyer mobility further accentuates why the legal environment's impact on listed company performance is better captured at the provincial rather than the municipal level. Nevertheless, this interpretation is speculative and necessitates validation through a more extensive dataset and in-depth empirical investigation.

## 4.5. Robustness Check

Considering that other factors may affect the test results of the theoretical hypothesis in this paper, this section conducts a robust test of the empirical model.

As mentioned above, we selects the number of lawyers per capita in the region as a measure of the legal environment. A potential problem is that although the number of lawyers per capita reflects the extent to which local economic entities use the legal system to solve problems, it does not describe government intervention in the activities of economic entities. Therefore, Table 11 attempts to add robustness to the results obtained in this paper by replacing the proxy variable of the rule of law environment from the number of lawyers per capita in the region to the ratio of tax revenue to the region's general public budget revenue. Tax revenue is the largest part of the Chinese government's general public budget revenue. The variable of tax revenue in general public budget revenue reflects the size of the motivation of local government to destroy the rule of law environment by obtaining the excess non-tax revenue by excessively enforcing fines and confiscated revenue due to government budget constraints. (Tang, 2021). The greater the proportion of tax revenue in the local government's general public budget revenue, the smaller the degree of budget constraints faced by the government, so the government's motivation to actively destroy the rule of law environment is smaller, and the regional rule of law environment is better. In addition, in order to prevent the one-sidedness of ROA as a company's performance, we also use the company's Tobin Q as a proxy variable for company performance.

We collected the ratio of the tax revenue of 31 provincial-level administrative regions in China to the general public budget revenue of the region, and named this variable TaxRatio in the model, and used this variable to replace the AvgLawyer variable in the original model, and at the same time, the ROA variable in the original model Change to Tobin Q, and then use the original model to test, the results are shown in Table 8 column(1). The empirical results still support the theoretical hypothesis 1 of this paper, that is, the local rule of law environment affects corporate performance through the collusion between local governments and enterprises. In addition, hypothesis 2 is still confirmed. Columns (2) and (3) are the results obtained by grouping state-owned enterprises and private enterprises respectively. It can be seen that the local rule of law environment affects enterprise performance through the collusion between local governments and enterprises. The phenomenon of colluding with the local government to obtain excess company performance is not significant, and hypothesis 2 has also passed the robustness test.

**Table 8.** Robustness check result

| | (1) | (2) | (3) |
|---|---|---|---|
| Variables | TobinQ | TobinQ | TobinQ |
| TaxRatio | -1.355162** | -1.4864129* | -1.2832290 |
| | (-2.32) | (-1.79) | (-1.33) |
| FirmSize | -0.5631783*** | 0.0050645 | 0.0109080 |
| | (-9.13) | (0.42) | (0.52) |

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| | | | |
|---|---|---|---|
| Leverage | 0.1189521** | -0.5568422*** | -0.7273008*** |
| | (2.53) | (-6.89) | (-7.23) |
| AssetTurn | 0.9490973*** | 0.1480397* | 0.0699613* |
| | (8.61) | (1.95) | (1.72) |
| RDSpendSumRatio | -0.0047809 | 1.0191731*** | 0.6903963*** |
| | (0.51) | (7.37) | (3.69) |
| Cashflow | 8.38e-11*** | 0.0000000** | 0.0000000*** |
| | (2.83) | (2.22) | (2.71) |
| IndDirectorRatio | -0.0018999 | -0.0030834 | 0.0052089 |
| | (-0.35) | (-0.39) | (0.66) |
| Boardsize2 | -0.0221586 | -0.0234687 | 0.0058621 |
| | (-1.07) | (-0.82) | (0.16) |
| Estbdt1 | 0.1176771*** | 0.1500301*** | 0.1040180*** |
| | (13.72) | (8.32) | (6.09) |
| PropertyRightsNature | -0.1017394 | - | - |
| | (-1.14) | - | - |
| StaffNumber | 9.38e-06** | 0.0000169 | 0.0000029 |
| | (0.95) | (1.02) | (0.28) |
| HHI_D | 0.0036856 | 0.3996351 | -0.3180859 |
| | (0.01) | (0.57) | (-0.36) |
| CapexpCashflowRatio | -0.0031479 | -0.0015262 | -0.0045685 |
| | (-1.17) | (-0.52) | (-0.73) |
| Year FE | | | |
| 2013 | 0.282324*** | 0.3618264*** | 0.1928045*** |
| | (9.63) | (9.60) | (4.00) |
| 2014 | 0.4937808*** | 0.5105526 | 0.5247508 |
| | (14.54) | (12.29) | (8.45) |
| 2015 | 1.40031*** | 1.530903*** | 1.145888*** |
| | (26.30) | (22.23) | (13.49) |
| 2016 | 0.8056592*** | 0.8461577*** | 0.7290972*** |
| | (20.02) | (14.88) | (10.70) |
| 2017 | 0.3002282*** | 0.3154497*** | 0.3484498*** |
| | (10.06) | (7.38) | (7.02) |
| 2018 | -0.2370435*** | -0.2221695 | -0.1976895 |
| | (-11.60 ) | (-9.11) | (-5.50) |
| 2019 | 0 | 0 | 0 |
| | (Omitted) | (Omitted) | (Omitted) |
| Constant | 12.6482*** | 12.1119635*** | 16.3918596*** |
| | (8.99) | (6.38) | (7.26) |
| | | | |
| Observations | 8,473 | 6,076 | 2,167 |
| Number of cd | 1,620 | 1,269 | 399 |
| R-squared | 0.1335 | 0.319 | 0.330 |
| Company FE | YES | YES | YES |
| Year FE | YES | YES | YES |
| Robust t-statistics in parentheses | | | |
| *** p<0.01, ** p<0.05, * p<0.1 | | | |

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# 5. Conclusion and Limitations

## 5.1. Conclusion

We are intrigued by the influence of China's legal environment on its economy, particularly the performance of listed companies. Evidently, the rule of law environment throughout China has undergone remarkable advancement in the last decade, with the number of lawyers per capita witnessing near doubling since 2012 across nearly all provincial administrative regions. However, the impending query pertains to the implications of this evolving rule of law environment on the operations of listed companies within these regions. Our exploration into the performance of listed manufacturing companies in China has unveiled a noteworthy finding: a significant negative correlation exists between the performance of listed manufacturing companies nationwide and the legal environment within the corresponding provincial administrative region. This correlation attains significance at the 10% level. This observation substantiates the mechanisms delineated in prior research, notably the concepts of local judicial protectionism and enterprise-government collusion as proposed by Pan [15] and Bardhan and Mookherjee.

Simultaneously, the ownership attributes of firms play a pivotal role in modulating the negative correlation between the rule of law environment and the performance of listed firms. When the enterprise possesses private ownership, an analysis encompassing 1,268 Chinese private manufacturing enterprises establishes a discernible negative linkage between the legal environment and the performance of listed companies. Conversely, in the case of state-owned enterprises, an examination involving a sample of 398 state-owned listed companies reveals that the previously negative association between the rule of law environment and listed company performance no longer retains statistical significance.

Our investigation further illuminates the nuanced influence of the rule of law environment's magnitude on outcomes. Specifically, the predictive efficacy of the proxy variable for the rule of law environment-represented by the number of lawyers per capita at the provincial level-appears to surpass that of its municipal-level counterpart. This discrepancy could be attributed to the potential perturbation caused by cross-regional practice of lawyers, which might impede the direct impact of the rule of law environment on corporate performance. However, this deduction necessitates comprehensive validation through further empirical scrutiny.

In summary, our research probes the intricate interplay between China's evolving legal environment and the performance of its listed companies. The findings underscore the multifaceted relationship between ownership attributes, rule of law environment, and performance outcomes. Furthermore, the level at which the rule of law environment is gauged holds implications for its predictive power. Nonetheless, these deductions warrant meticulous validation through rigorous testing and additional research endeavours.

## 5.2. Limitations

Owing to the exigencies of time during the research process, this paper is beset with several limitations. Foremost among these is the lack of clarity in delineating the study's scope concerning the rule of law environment, compounded by the absence of a scientific and efficacious methodology for the selection of proxy variables to encapsulate the rule of law environment. Furthermore, a conspicuous gap emerges in the dearth of comprehensive inquiry into the specific mechanisms underpinning the influence of the rule of law environment on corporate performance. Moreover, constrained by data availability, certain investigations within this paper have necessitated the adoption of reduced sample sizes, potentially impacting the robustness of the conclusions drawn therein.

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