

Judicial Independence on Corporate Risk-taking based on the Quasi-natural Experiment of Province High Court's Offsite Exchange

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Abstract

Judicial independence is an important means to strengthen the construction of the legal system, and its economic consequences have attracted much attention. Based on the quasi-natural experiment of judges' cross-regional exchanges in 2013 and using data from listed companies from 2009 to 2016, this paper explores the impact of judicial independence on corporate risk-taking. We find that there is a negative relationship between judicial independence and corporate risk-taking, and this conclusion remains valid after multiple robustness tests. Furthermore, the inhibitory effect of judicial independence on corporate risk-taking is more pronounced in companies with higher analyst pressure, higher retail investor pressure, or the presence of institutional selling. Mechanism analysis shows that judicial independence inhibits corporate risk-taking by increasing the amount of litigation and reducing net profit. These results are consistent with the logic that corporate managers reduce corporate risk-taking to alleviate performance pressure. This study provides a new perspective and strong evidence for the economic consequences of judicial independence.

Keywords

Judicial Independence; High Court's Offsite Exchange; Performance Pressure; Corporate Risk-taking.

1. Introduction

The report to the 20th National Congress of the Communist Party of China made further significant plans for "strictly and impartially administering justice," clearly pointing out that impartial justice is the last line of defense for maintaining social equity and justice. Judicial justice is the cornerstone of the construction of the legal system, and the independent and impartial exercise of judicial authority by judicial organs is the premise for ensuring judicial justice. At the macro level, legal theory in finance suggests that law is embedded within the financial system. There is a complex interaction between law and finance, where the development of financial markets is inseparable from public legal systems and corresponding regulatory agencies, and law can also be a source of financial instability. At the micro level, improvements in the legal environment are conducive to business activities. Therefore, studying the impact of judicial independence on enterprises is of practical significance.

Research on the economic consequences of judicial independence in China is still inadequate. There are fundamental differences between China's "judicial independence" and that of Western countries. China's principle of judicial independence emphasizes that courts independently exercise judicial power according to law, which is distinct from the formalism in Western countries that emphasizes the independence of judicial power from legislative and administrative powers. Western judicial independence cannot be fully applied to China. Current

research mainly focuses on legal and macroeconomic aspects, with limited studies on corporate behavior. Based on the cross-regional exchange activities in 2008, judicial independence significantly improved judicial efficiency, reduced the degree of local market segmentation, and promoted economic growth [1, 2]. Liu and Li found that judicial independence contributes to the development of financial markets [3]. Theoretically, studying the relationship between judicial independence and corporate behavior faces challenges in mitigating endogeneity issues. The cross-regional exchange activities of provincial high courts in 2013 provided a good experimental environment for examining the economic consequences of judicial independence, presenting an opportunity for related research.

This paper will conduct research from the perspective of judicial independence and corporate risk-taking. Firstly, as important entities in the capital market, listed companies are crucial micro-foundations for high-quality economic development. The enhancement of judicial independence creates a favorable legal environment for corporate development. Studying the level of corporate risk-taking helps to better understand the level of corporate governance, thereby promoting the high-quality development of the capital market. There is a positive relationship between the level of corporate governance and corporate risk-taking, and good corporate governance can stimulate risk-taking by listed companies [4]. Secondly, maximizing corporate value is inseparable from the selection of investment and financing projects [5]. The level of corporate risk-taking reflects risk preferences and tolerance in decision-making. A higher level of corporate risk-taking indicates that the company is more inclined to choose high-risk, high-return investment projects [6, 7, 8]. Therefore, based on the cross-regional exchange activities of provincial high courts, the impact of enhanced judicial independence on corporate risk-taking is worthy of further exploration.

Theoretically, judicial independence has a positive effect on corporate risk-taking. The enhancement of judicial independence can alleviate agency problems [9]. Judicial independence strengthens investor protection, providing robust safeguards for investor oversight. In a more fair and transparent market environment, the issue of agents choosing conservatism to protect their reputation can be alleviated [10, 11]. With an improved investor protection environment, agents are more likely to make decisions based on the long-term interests of the company rather than their short-term personal interests. Therefore, judicial independence can promote corporate risk-taking by alleviating agency problems. However, the enhancement of judicial independence may also inhibit corporate risk-taking. On the one hand, the cross-regional exchange of judges increases corporate litigation risks. The improvement of judicial independence increases the probability of companies being investigated for violations, which may trigger negative market reactions [12]. This risk damages corporate reputation and reduces financing capabilities [13, 14]. Companies with severe financing constraints may exhibit investment deficiencies [15]. On the other hand, litigation risks increase corporate litigation costs. Company profits are compressed, and corporate profitability declines. Managers face increased pressure to perform, requiring more cautious assessment and management of risks. Therefore, the enhancement of judicial independence intensifies managers' short-term performance pressure, leading to a decrease in the level of corporate risk-taking.

In summary, the direction of the impact of judicial independence on corporate risk-taking is not yet clear and requires empirical research to verify. This paper, using a sample of A-share listed companies from 2009 to 2016, demonstrates that judicial independence has an inhibitory effect on the level of corporate risk-taking, and this result remains robust after applying parallel trend tests, placebo tests, propensity score matching, different variable measurement methods, narrowing the time window, and lagged variable regression. Further analysis indicates that the inhibitory effect on corporate risk-taking is stronger in companies with higher analyst pressure, retail investor pressure, or institutional sell-offs. These findings are consistent with the notion

that increased judicial independence enhances managerial performance pressure and inhibits corporate risk-taking.

The contributions of this paper may include: Firstly, it extends the research on the economic consequences of judicial independence. Existing studies on the enhancement of judicial independence have explored its impact on corporate risks from the perspective of litigation risks, such as the impact on corporate violations and the impact on corporate innovation [12, 16]. Building on this foundation, this paper further delves into the issue of performance pressure arising from litigation risks brought by judicial independence, and its subsequent influence on the level of corporate risk-taking. Secondly, this paper enriches the research on the influencing factors of corporate risk-taking. Some literature has found that the exchange of judges across different regions increases corporate litigation risks and reduces corporate debt levels, thereby decreasing corporate risk-taking [17]. Other literature suggests that the enhancement of judicial independence can alleviate financing constraints, promote corporate innovation, and thus increase corporate risk-taking [16]. This paper examines the impact of judicial independence on corporate risk-taking from the perspective of performance pressure, expanding the understanding of the relationship between judicial independence and corporate risk-taking. Thirdly, this paper utilizes the quasi-natural experiment of the exchange of provincial high court judges across different regions to mitigate endogeneity issues. Leveraging exogenous shocks is conducive to identifying the causal relationship between the enhancement of judicial independence and corporate risk-taking. Fourthly, the research in this paper helps policymakers better understand the role of impartial and independent justice in corporate risk-taking and facilitates accurate prediction of the implementation effects of subsequent policies regarding the exchange of judges across different regions.

The structure of this paper is as follows: The second part presents the policy background, theoretical analysis, and research hypotheses. The third part discusses the research design. The fourth part presents the main empirical tests and analyses. The fifth part provides further analysis. The sixth part concludes the paper.

2. Policy Background, Theoretical Analysis and Research Hypothesis

2.1. Experimental Background of the Provincial High Court's Exchange in Different Places

The rudiments of China's judicial recusal system can be traced back to the Western Zhou Dynasty, while the formal legal provisions for the recusal system began in the Tang and Song Dynasties. Over time, the system developed further in the Yuan Dynasty and reached its final stage of perfection in the Ming Dynasty [18]. After thousands of years of evolution and improvement, personnel management has gradually become more scientific and standardized. On February 28, 2008, for the first time since the founding of China, a large-scale system of exchanging provincial high court presidents across different provinces was implemented under the efforts of the Supreme People's Court. A total of 26 provincial court presidents and chief procurators participated in the exchange program [19]. This policy effectively ensures that each province fulfills its judicial functions independently according to the law. This initiative is not only a modern inheritance and development of the ancient recusal system, but also a profound innovation in the personnel arrangement mechanism in the judicial field.

In 2013, the 11th National People's Congress Standing Committee approved the appointment of chief procurators of provincial and district people's procuratorates. Except for ethnic autonomous regions, newly promoted "two chiefs" (chief judges and chief procurators) of provincial courts and procuratorates were mainly filled by exchange cadres. This was another round of cross-province personnel transfers in the judiciary, following the one in 2008, but on a larger scale. A total of 20 provincial (autonomous regions, municipalities directly under the

central government) high court presidents were transferred to serve through exchanges from other provinces or the Supreme People's Court. This serves three main purposes: firstly, it helps comprehensively cultivate and train cadres; secondly, it facilitates leaders to break free from regional constraints and create new work situations; thirdly, it promotes the construction of a clean and honest government and rejects judicial corruption institutionally. The exchange of judges across different regions not only strengthens the exchange and cooperation between judicial systems in different regions but also effectively avoids the influence of regional factors on judicial impartiality, thereby further enhancing the overall efficiency of the judicial system.

2.2. Literature Review

As China advances in building a capital market with Chinese characteristics and a financially powerful nation, enhancing the quality of listed companies necessitates stringent regulation. The legal system, as an external supervisory factor, significantly influences corporate behavior. Fang et al. found that strengthened intellectual property protection promotes corporate innovation [20]. Wan Liangyong observed that in regions with higher levels of the rule of law, listed companies' over-investment behavior decreased, thereby improving their investment efficiency [21]. Yu Minggui and Pan Hongbo discovered that in regions with higher levels of the rule of law and financial development, state-owned enterprises (SOEs) received fewer bank loans with shorter maturities [22]. This is because the development of the rule of law and finance weakened the effect of local governments' loan support for SOEs. Strengthening the rule of law can effectively control government intervention in economic activities and resource allocation. Consequently, as judicial independence improves, government intervention will decrease significantly.

The influence of judicial independence on corporate behavior is particularly pronounced. Enhanced judicial independence increases the likelihood of detecting and punishing corporate violations, which helps standardize corporate behavior and prevent financial fraud [12]. Liu found that increased judicial independence is negatively correlated with the risk of stock price crashes [23]. Klerman and Mahoney argued that judicial independence contributes to increasing the value of financial assets [9]. In terms of corporate governance and innovation, judicial independence alleviates financing constraints, improves corporate governance, and promotes innovation [16]. Finally, Klerman and Mahoney pointed out that judicial independence safeguards property and contractual rights, mitigating the manager-shareholder agency problem [9]. However, most existing literature on judicial independence originates from Western contexts, which are fundamentally different from China's. Additionally, much of this literature suffers from potential endogeneity issues, lacking robust exogenous policy shocks for validation. The 2013 provincial high court presidents' exchange program provides an excellent opportunity to examine the economic consequences of judicial independence.

The exchange of provincial high court presidents is crucial for enhancing the judicial independence of people's courts in various provinces. President Xi Jinping has delivered a series of important speeches on the construction of a legal team. He stressed that comprehensively advancing the rule of law hinges on building a high-quality legal team with both moral integrity and professional competence. The exchange of "two presidents" (chief judges and chief procurators) is not only a critical component of strengthening the construction of political and legal teams but also an effective means of preventing power alienation and corruption. High court presidents not only exert decisive influence on the trial of cases in their respective courts but also significantly impact the trials of cases in the intermediate and grassroots courts under their jurisdiction [24]. Judges working in the same place for a long time may lead to judicial corruption and local protectionism [25]. Through cross-province exchanges, presidents of people's courts and chief procurators can break free from regional constraints and complex human networks, creating favorable conditions for impartial and incorruptible

law enforcement. Chen Gang confirmed the effectiveness of this measure, with the case closure rate in regions where judges underwent cross-province exchanges being approximately 2% higher than in other regions [1]. This indicates that the exchange program not only contributes to enhancing judicial impartiality but also lays a solid foundation for creating a just judicial environment. During the period of judges' cross-province exchanges, the impact of judicial independence on corporate risk-taking has attracted considerable attention.

2.3. Theoretical Analysis and Research Hypotheses

On the one hand, judicial independence can mitigate the principal-agent problem, thereby enhancing corporate risk-taking. Judicial independence ensures the fair and unbiased enforcement and interpretation of laws. Agency costs refer to the monitoring costs that shareholders incur to prevent agents from damaging the value of the company, as well as residual losses [26]. In principal-agent relationships, agents' actions are often influenced by various factors, including personal interests and reputation considerations, which may lead them to make decisions that deviate from the interests of the principal. Scholars have emphasized the importance of internal power governance within enterprises [27]. Enhanced judicial independence provides agents with clear and stable legal expectations. In response to stronger legal oversight, agents are more likely to consider the long-term development and overall interests of the enterprise when making decisions, rather than personal short-term gains. Thus, the policy of inter-regional judge exchanges effectively mitigates the principal-agent problem.

The mitigation of agency problems contributes to increased corporate risk-taking. Agency costs are a crucial factor influencing corporate risk-taking [28]. In modern corporate systems, agents often avoid high-risk projects or adopt conservative strategies due to personal interests [11]. When agency problems are alleviated, conflicts of interest between management and shareholders decrease. Managers are more inclined to focus on the long-term development and overall interests of the enterprise when making decisions, and are willing to invest in high-risk, high-return projects, thereby enhancing corporate risk-taking. Improved internal oversight mechanisms foster a fair and just business environment, conducive to enterprises actively taking risks and achieving stable development. Additionally, the alleviation of agency problems enhances corporate credibility and reputation, bolstering trust from partners and investors, and providing a solid foundation for corporations to assume greater risks. Judicial independence ensures a favorable legal environment, where agency problems are mitigated, thereby promoting corporate risk-taking. Consequently, the following research hypothesis is proposed:

Hypothesis 1a: Enhanced judicial independence promotes corporate risk-taking.

On the other hand, judicial independence can increase performance pressure, thereby reducing corporate risk-taking. The policy of inter-regional judge exchanges provides enterprises with a sound legal environment but also intensifies litigation risks. Enhanced court credibility leads to a higher willingness to litigate [29]. Enterprises need to maintain financial flexibility to cope with increased legal disputes and litigation [30, 31]. Moreover, litigation costs rise, compressing corporate profits, free cash flow, and financing capabilities [12]. For instance, creditors may reduce credit support for enterprises due to concerns over legal disputes, limiting debt financing capacity [13, 14]. Consequently, short-term performance declines, and managers face increased performance pressure.

Increased performance pressure inhibits corporate risk-taking. While performance evaluation is an effective measure to promote long-term corporate development, it can also exacerbate performance pressure, inducing short-sighted behavior [32]. Firstly, under strict supervision, managers need to carefully assess and manage risks to ensure compliance with the new legal environment. Secondly, increased external environmental uncertainty leads to lower corporate

leverage ratios and reduced debt levels [33, 17]. In high-tech enterprises, performance pressure can decrease R&D investment [32]. Firms with severe financing constraints may experience underinvestment [15]. Thirdly, stricter legal regulation restricts corporate over-investment, earnings management, and other self-interested behaviors. Short-term performance declines can lead enterprises to overly focus on short-term performance indicators, thereby reducing their willingness to take risks [34]. Judicial independence intensifies litigation risks for enterprises, increasing managers' performance pressure and inhibiting corporate risk-taking. In summary, the following research hypothesis is proposed:

Hypothesis 1b: Enhanced judicial independence reduces corporate risk-taking.

3. Research Design

3.1. Sample Selection and Data Sources

Using the provincial high court judges' cross-regional exchange in 2013 as a quasi-natural experimental setting, this paper examines the impact of judicial independence on corporate risk-taking. The data on judges' cross-regional exchange were sourced from Baidu, related websites, and other disclosure information. To eliminate the interference of the 2008 natural experiment, this paper follows the research of Chen Shenglan and only considers the six provinces (Hubei, Liaoning, Jiangsu, Anhui, Gansu, Fujian) that participated in the judges' cross-regional exchange in 2013 as the treatment group, while the remaining 14 provinces that have never participated in such exchange activities are used as the control group [17]. The sample period covers two periods: before (2009-2012) and after (2013-2016) the judges' cross-regional exchange.

This study utilizes the listed company data provided by China Stock Market & Accounting Research (CSMAR) Database. The data from the two periods before (2009-2012) and after (2013-2016) the judges' cross-regional exchange were selected as the initial research sample, and the following data screening steps were performed: (1) Exclude the data of listed companies in the finance and insurance industries, as well as those with abnormal operations (ST/PT); (2) Exclude the data from the provinces that participated in the judges' cross-regional exchange in 2008 (Tianjin, Shanghai, Hebei, Zhejiang, Guangdong, Hainan, Jiangxi, Henan, Hunan, Chongqing, Sichuan, Guizhou, Yunnan, Shaanxi); (3) Delete data with missing values in other control variables. To mitigate the impact of extreme values on the results, all continuous variables were winsorized at the 1% and 99% percentiles. Following Petersen, each regression model employs the "cluster" treatment for firms to correct the standard errors of coefficient estimates [35].

3.2. Model Specification and Variable Definition

Based on the research of Chen Shenglan (2020) and Yu Minggui (2013), this paper establishes the following models to be tested [17, 8].

$$Risk-taking_{i,p,t} = \alpha + \beta Treat_p \times Post_t + \gamma' Control_{i,p,t} + \sum Year + \sum Industry + \sum Province + \varepsilon_{i,p,t} \quad (1)$$

In Model (1), i , p , and t represent firm i , province p , and year t , respectively. Risk-taking is the explained variable, measuring the level of corporate risk-taking. Existing literature primarily assesses corporate risk-taking from the perspective of earnings volatility. While some scholars use leverage as a proxy variable for corporate risk-taking (e.g., Dong et al., 2010), leverage, though simple and intuitive, lacks comprehensiveness and has low validity as an indicator. In contrast, using industry-level earnings volatility to represent corporate performance is more accurate and comprehensive. Therefore, following Yu Minggui, this paper employs the volatility

of Return on Assets (ROA) from research and development as a measure of corporate risk-taking [8]. Specifically, the explained variable, Risk-taking, is calculated as the ratio of Earnings Before Interest and Taxes (EBIT) to total assets at the end of the year, using a rolling three-year period as the observation window.

Table 1. Variable Definitions

Variable Symbol	Variable Definitions and Calculation Methods
<i>Risk-taking</i>	Earnings Volatility: The earnings volatility is calculated based on Return on Assets (ROA), which is equal to the ratio of Earnings Before Interest and Taxes (EBIT) to total assets at the end of the year. Using a rolling-year approach, each three-year period (from year t-1 to year t+1) serves as an observation window. The standard deviation of the industry-adjusted earnings return rate over these three years is calculated. The industry-adjusted earnings return rate is equal to the difference between the firm's earnings return rate in the current year and the average earnings return rate of all firms within the same industry in that year.
<i>Treat</i>	Dummy Variable: A dummy variable is assigned a value of 1 for provinces (Hubei, Liaoning, Jiangsu, Anhui, Gansu, Fujian) where cross-regional exchanges of provincial high court judges or provincial procuratorate chief procurators occurred exclusively in 2013, and a value of 0 for provinces (Beijing, Shanxi, Jilin, Heilongjiang, Shandong, Inner Mongolia, Qinghai, Guangxi, Tibet, Ningxia, Xinjiang) where no litigation risks have ever occurred.
<i>Post</i>	Pre- and Post-Event Dummy Variable: Years after 2013 are defined as 1, while years before 2013 are defined as 0 for the dummy variable.
<i>Size</i>	Company Size: The natural logarithm of total assets at the end of the year.
<i>Leverage</i>	Enterprise Asset-Liability Ratio: The ratio of total liabilities at the end of the year to total assets at the end of the year.
<i>ROA</i>	Net Profit divided by Total Assets at the End of the Year.
<i>Growth</i>	Enterprise Growth: Revenue Growth Rate of the Enterprise.
<i>Firmage</i>	Enterprise Operating Years: The natural logarithm of the enterprise's establishment years plus 1, or the natural logarithm of the number of years since the enterprise went public up to year t-1, whichever is applicable. For companies that have been listed for less than one year, the value is set to 0.
<i>Indep</i>	Ratio of Independent Directors to Board Members: The number of independent directors divided by the total number of board members.
<i>Cap</i>	Capital Expenditure: The natural logarithm of the cash paid by the enterprise for the acquisition and construction of fixed assets, intangible assets, and other long-term assets.
<i>Top1</i>	Shareholding Ratio of the Largest Shareholder at the End of the Year: The percentage of shares held by the largest shareholder of the enterprise at the end of the year.
<i>Broadsize</i>	Board Size: The natural logarithm of the number of board members.
<i>Dual</i>	Duality: A value of 1 is assigned when the CEO concurrently serves as the chairman of the board, and 0 otherwise.

The *Treat*×*Post* interaction term is the core explanatory variable. Following existing literature, *Treat* is a dummy variable that equals 1 if the listed company is located in a province where judges' cross-regional exchange occurred only in 2013, and 0 otherwise [17, 36]. *Post* is a dummy variable that equals 1 if the sample period is 2013 or later, and 0 otherwise. The coefficient of *Treat*×*Post* reflects the impact of the judges' cross-regional exchange policy on corporate risk-taking in pilot provinces. If the estimated coefficient is expected to be positive, it indicates that improved judicial independence promotes corporate risk-taking, thereby confirming Hypothesis 1 of this study; if the estimated coefficient is expected to be negative, it indicates that improved judicial independence inhibits corporate risk-taking, thereby confirming Hypothesis 2 of this study.

A series of control variables include firm size (*Size*), asset-liability ratio (*Lev*), firm growth (*Growth*), firm age (*Firmage*), proportion of independent directors (*Indep*), capital expenditure (*Cap*), shareholding ratio of the largest shareholder (*Top1*), board size (*Boardsize*), and duality of CEO and chairman positions (*Dual*). Year, Industry, and Province controls are included to account for fixed effects related to year, industry, and province, respectively. To control for potential cross-sectional correlation issues, all regressions in this paper cluster the standard errors at the firm level. The variable definitions are presented in Table 1.

4. Result

4.1. Descriptive Statistics and Correlation Analysis

Table 2 presents the descriptive statistics of the main variables. After screening, the total sample size in this paper is 9,108. The descriptive statistics reveal that the mean, standard deviation, median, minimum, and maximum values of the explained variable ROA volatility (Risk-taking) are 4.805, 7.505, 2.032, 0.169, and 36.576, respectively, indicating that there are relatively large differences in the level of risk-taking among different enterprises in China. The mean value of *Treat* is 0.425, indicating a relatively balanced observation between the treatment group and the control group.

Table 2. Descriptive Statistics

Variable	Observations	Mean	Std. Dev.	Upper Quartile	Median	Lower Quartile	Min.	Max.
<i>Risk-taking</i>	9,108	4.805	7.505	1.039	2.032	4.512	0.169	36.576
<i>Treat</i>	9,108	0.414	0.493	0.000	0	1	0	1
<i>Post</i>	9,108	0.570	0.495	0.000	1	1	0	1
<i>Size</i>	9,108	22.044	1.293	21.139	21.860	22.782	19.139	26.054
<i>Leverage</i>	9,108	0.464	0.222	0.290	0.461	0.639	0.047	0.984
<i>Growth</i>	9,108	0.197	0.561	-0.045	0.102	0.276	-0.579	3.948
<i>Firmage</i>	9,108	2.736	0.347	2.565	2.773	2.996	1.386	3.332
<i>Indep</i>	9,108	37.161	5.348	33.330	33.330	40.000	30.770	57.140
<i>Cap</i>	9,108	18.519	1.876	17.481	18.576	19.629	13.066	23.370
<i>Top1</i>	9,108	35.594	15.395	23.350	33.485	46.440	8.800	76.160
<i>Boardsize</i>	9,108	2.154	0.201	2.079	2.197	2.197	1.609	2.708
<i>Dual</i>	9,108	0.214	0.410	0	0	0	0	1

4.2. Regression Results and Analysis

Table 3 presents the results of the Difference-in-Differences (DiD) test on the impact of judges' cross-regional exchanges on corporate risk-taking levels. Column (1) shows that when other control variables are not controlled, the coefficient of *Treat*×*Post* is -1.274, which is significantly negative at the 5% level. When controlling for other control variables, the regression coefficient of the explanatory variable is -1.230, as shown in Column (2), which is also significantly negative at the 5% level. This indicates that judges' cross-regional exchanges have a significant inhibitory effect on corporate risk-taking levels, thereby confirming Hypothesis 2 of this study. In terms of control variables, the regression coefficients of *Leverage* and *Growth* are significantly positive, indicating that the higher the firm's asset-liability ratio and the stronger its growth potential, the higher its risk-taking level. The regression coefficients of *Size*, *Cap*, and *Top1* are significantly negative, suggesting that larger company size, higher capital expenditures, and higher equity concentration are associated with lower corporate risk-taking.

Table 3. Judicial Independence and Corporate Risk-Taking

Independent variable	(1) <i>Risk-taking</i>	(2) <i>Risk-taking</i>
<i>Treat×Post</i>	-1.274*** (-3.439)	-1.230*** (-3.413)
<i>Size</i>		-0.531*** (-4.167)
<i>Leverage</i>		5.003*** (8.802)
<i>Growth</i>		0.299* (1.750)
<i>Firmage</i>		-0.226 (-0.977)
<i>Indep</i>		0.024 (1.524)
<i>Cap</i>		-0.429*** (-5.694)
<i>Top1</i>		-0.023*** (-4.299)
<i>Broadsize</i>		-0.247 (-0.510)
<i>Dual</i>		-0.031 (-0.165)
Intercept	5.166*** (8.344)	22.710*** (10.056)
Industry Fixed Effects	Yes	Yes
Year Fixed Effects	Yes	Yes
Province Fixed Effects	Yes	Yes
Sample Size	9,108	9,108
Adjusted R ²	0.318	0.353

Note: All regressions employ robust standard errors adjusted for heteroskedasticity and clustered by firm to account for potential within-firm correlations. The significance levels indicated by *, **, and *** correspond to 10%, 5%, and 1% levels of significance, respectively (two-tailed tests). The same applies to the following tables.

4.3. Robustness Checks

4.3.1. Parallel Trend Test

The parallel trend assumption is a prerequisite and guarantee for the validity of the Difference-in-Differences (DID) model. This assumption posits that the treatment group and the control group should exhibit similar trends before the policy intervention [1]. To verify whether this assumption holds, we conduct a parallel trend test using 2012 as the base period for comparison, and the results are presented in Figure 1. The years 2009-2011 represent the three, two, and one years prior to the judges' cross-regional exchange, while 2013-2016 correspond to the year of the exchange and the subsequent one, two, and three years. From the dynamic effects plot in Figure 1, it can be observed that the coefficients of *Treat×Post* are not significant during the period 2009-2011, whereas they are significantly negative during 2013-2016. This finding suggests that there were no significant differences in the corporate risk-taking levels between the two groups before the policy, thus fulfilling the parallel trend assumption.

Furthermore, the significant coefficients post-policy align with the findings from the benchmark regression, which indicate that judicial independence inhibits corporate risk-taking.

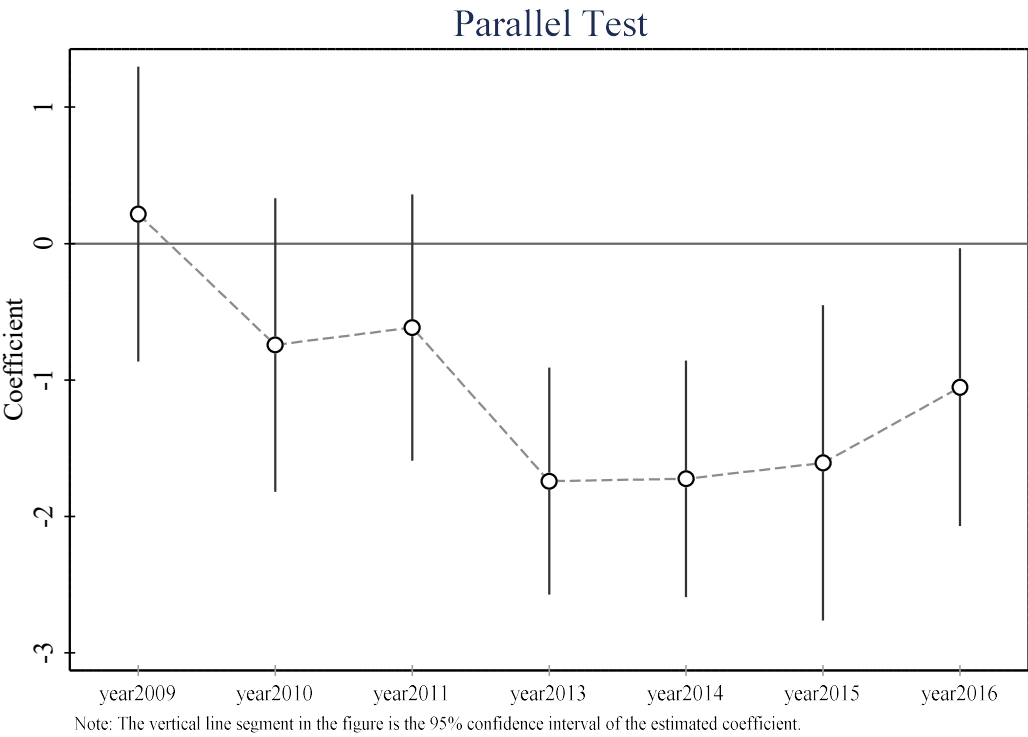


Figure 1. Dynamic Effect Test Chart

4.3.2. Placebo-Controlled Test

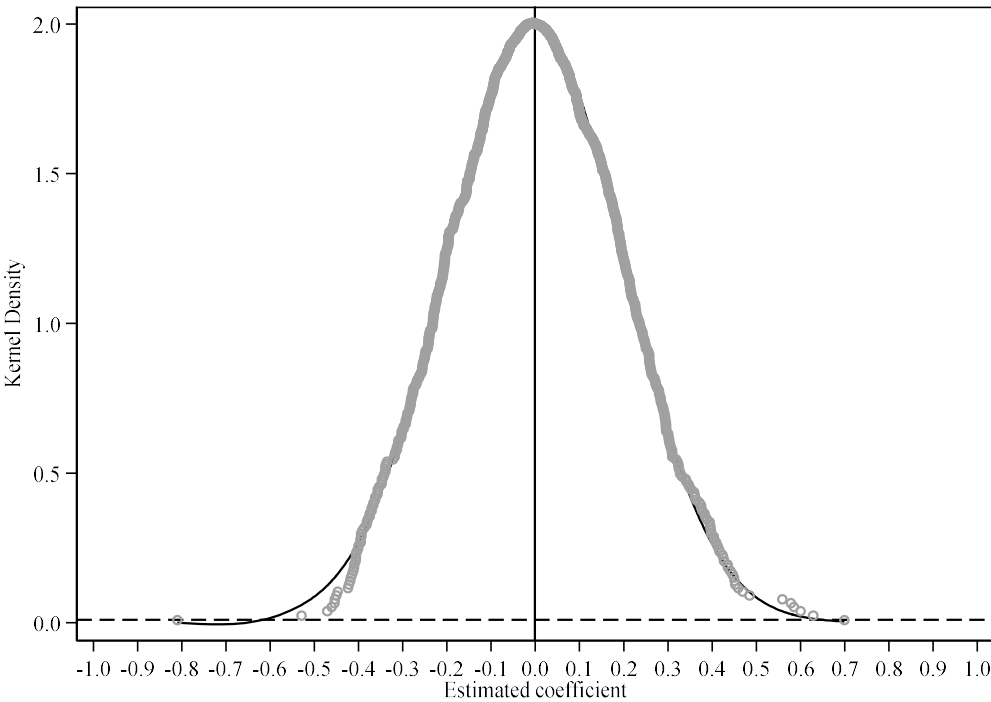


Figure 2. Placebo Test

To further mitigate the inherent characteristic differences between provinces that have implemented cross-regional exchanges of judges and those that have not, address the exclusivity of the mechanism through which treatment variables affect outcome variables, and alleviate the interference caused by uncontrollable unobservable variables in the model on the results of this paper, a placebo test was conducted. Individuals were randomly selected as the treatment group, and the regression was repeated 1000 times. As observed in Figure 2, the coefficients of the random samples are normally distributed with a mean of 0. Additionally, the regression coefficient of the explanatory variable in Table 3 is -1.230, falling outside the distribution of the estimated coefficients from the random sampling. Therefore, the placebo test has been passed.

4.3.3. Propensity Score Matching and Other Robustness Tests

1) Propensity Score Matching

Table 4. Results of Propensity Score Matching Balance Test

	Before and After Matching	Mean		T test	
		Treatment	Control	t	p> t
<i>Size</i>	Before matching	22.040	22.040	-0.040	0.971
	After matching	22.040	22.040	-0.010	0.994
<i>Leverage</i>	Before matching	0.438	0.446	-1.170	0.241
	After matching	0.438	0.438	0.030	0.978
<i>Growth</i>	Before matching	0.185	0.181	0.200	0.840
	After matching	0.185	0.177	0.470	0.636
<i>Firmage</i>	Before matching	2.821	2.820	0.050	0.959
	After matching	2.821	2.830	-1.090	0.277
<i>Indep</i>	Before matching	37.560	37.270	1.680	0.093
	After matching	37.560	37.430	0.820	0.415
<i>Cap</i>	Before matching	18.410	18.440	-0.450	0.650
	After matching	18.410	18.410	0.110	0.912
<i>Top1</i>	Before matching	34.310	33.990	0.660	0.511
	After matching	34.310	33.470	1.880	0.060
<i>Broadsize</i>	Before matching	2.119	2.132	-2.080	0.037
	After matching	2.119	2.126	-1.100	0.271
<i>Dual</i>	Before matching	0.274	0.245	2.080	0.038
	After matching	0.274	0.253	1.560	0.120

Considering that there may also be significant differences between the treatment and control groups of enterprises, which may lead to biased parameter estimates, this paper adopts the propensity score matching (PSM) method to mitigate this issue. Specifically, the nearest neighbor 1:1 matching method is used to match the treatment group with the control group based on propensity scores, screening out control group enterprises with financial characteristics closely resembling those of the treatment group. Table 4 reports the results of the balance test for matching variables between the treatment and control groups, while Table 5 reports the regression results after matching. These results are essentially the same as the baseline regression results, indicating that the core findings of this paper remain robust.

Table 5. Estimation Results of the Difference-in-Differences Model after Matching

Independent variable	(1) <i>Risk-taking</i>	(2) <i>Risk-taking</i>
<i>Treat×Post</i>	-1.534** (-2.459)	-1.666*** (-2.688)
<i>Size</i>		-0.517*** (-2.998)
<i>Leverage</i>		4.222*** (5.890)
<i>Growth</i>		0.093 (0.361)
<i>Firmage</i>		-0.372 (-0.960)
<i>Indep</i>		0.010 (0.445)
<i>Cap</i>		-0.372*** (-3.846)
<i>Top1</i>		-0.032*** (-4.161)
<i>Broadsize</i>		-0.359 (-0.518)
<i>Dual</i>		-0.359 (-1.546)
Intercept	3.173*** (2.835)	20.877*** (6.059)
Industry Fixed Effects	Yes	Yes
Year Fixed Effects	Yes	Yes
Province Fixed Effects	Yes	Yes
Sample Size	3,822	3,822
R ²	0.357	0.383

2) Other Robustness Tests

To further ensure the reliability of the conclusions, this paper also conducted the following supplementary tests: First, the measurement of corporate risk-taking level was altered. The standard deviation of industry-adjusted ROA over a five-year period was adopted, denoted as *Risk-taking_{5year}*. Second, the time window was narrowed to 2010-2015. Third, considering the potential time lag in the implementation of the policy of judges' exchange among different regions, a lagged regression analysis was performed [1]. As shown in Table 6, after these adjustments, the coefficient of *Treat×Post* remains significantly negative, indicating that the benchmark regression results are robust.

Table 6. Other Robustness Tests

Independent variable	(1) <i>Risk-taking_5year</i>	(2) <i>Risk-taking</i>	(3) <i>Risk-taking</i>
Independent variable	Change the explained variable	Narrow the time window	Lagged one period
<i>Treat×Post</i>	-0.889** (-2.058)	-1.167*** (-2.770)	-0.605* (-1.874)
<i>Size</i>	-0.814*** (-4.551)	-0.505*** (-3.436)	-0.477*** (-3.624)
<i>Leverage</i>	6.051*** (7.135)	4.475*** (6.905)	4.819*** (8.043)
<i>Growth</i>	0.460*** (2.632)	0.411** (2.115)	-0.396** (-2.477)
<i>Firmage</i>	-0.190 (-0.532)	-0.260 (-1.135)	-0.493* (-1.926)
<i>Indep</i>	0.013 (0.592)	0.035** (1.978)	0.018 (0.976)
<i>Cap</i>	-0.374*** (-3.633)	-0.443*** (-4.998)	-0.350*** (-4.381)
<i>Top1</i>	-0.030*** (-3.900)	-0.026*** (-4.546)	-0.027*** (-4.493)
<i>Broadsize</i>	-0.553 (-0.767)	0.323 (0.574)	-0.277 (-0.513)
<i>Dual</i>	0.137 (0.515)	-0.036 (-0.171)	-0.141 (-0.655)
Intercept	29.557*** (9.052)	18.999*** (7.508)	19.832*** (7.932)
Industry Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Province Fixed Effects	Yes	Yes	Yes
Sample Size	8,448	6,886	7,509
R ²	0.419	0.419	0.352

4.4. Mechanism Analysis

The preceding analysis indicates that the policy of judges' exchange among different regions increases the litigation risks faced by enterprises, which in turn raises performance pressure on managers, ultimately leading to a decrease in corporate risk-taking. However, the specific mechanism through which judicial independence affects corporate risk-taking remains to be further explored. Drawing on considerations of managerial performance pressure and relevant literature on factors influencing corporate risk-taking, this paper argues that the enhancement of judicial independence intensifies litigation risks, potentially leading to an increase in the amount of litigation claims against enterprises and a decrease in corporate profits, thereby inhibiting corporate risk-taking.

From the perspective of performance pressure, improved judicial independence increases the probability of corporate violations being detected, subsequently leading to a rise in the amount of litigation claims against enterprises and a corresponding decline in profits [12]. Firstly, under stricter regulatory environments, free cash flow becomes constrained, and managers may need to more cautiously assess and manage risks due to short-term performance pressure. Secondly, the exchange program effectively reduces local government intervention. Yang Huajun and Hu Yiming found that local government control and intervention significantly

increased over-investment behavior using free cash flow [37]. When intervention is curbed, self-interested behaviors such as over-investment and earnings management by enterprises decrease. Therefore, judicial independence leads to an increase in litigation claims against enterprises, which reduces profits and subsequently lowers corporate risk-taking. Next, this paper tests these mechanisms.

This paper adopts the amount of litigation claims against enterprises as a measure of litigation risk, following the research of Chen Shenglan et al. [17]. Firstly, it examines whether the policy of judges' exchange among different regions leads to an increase in the amount of litigation claims against enterprises. By replacing the explained variable with the amount of litigation claims, Column (1) in Table 8 shows the estimation results for this pathway. The regression coefficient of the interaction term $Treat \times Post$ is positive and significant at the 5% level, indicating that the exchange policy significantly increases the amount of litigation claims against enterprises. Secondly, the explained variable is replaced with net profit. Column (2) in Table 7 presents the estimation results for this impact pathway. The regression coefficient of the interaction term $Treat \times Post$ is negative and significant at the 5% level, indicating that the implementation of the judges' exchange policy significantly reduces corporate net profit. In summary, the policy of judges' exchange among different regions strengthens corporate supervision, and managers, faced with performance pressure, choose to reduce corporate risk-taking.

Table 7. Mechanism Analysis

Independent variable	(1) <i>Litigation</i>	(2) <i>Profit</i>
Independent variable	0.615** (2.355)	-1.057** (-2.350)
<i>Treat×Post</i>	0.067 (0.507)	1.865*** (8.776)
<i>Size</i>	3.775*** (7.182)	-18.312*** (-20.784)
<i>Leverage</i>	0.054 (0.451)	2.920*** (12.924)
<i>Growth</i>	-0.153 (-0.560)	0.052 (0.124)
<i>Firmage</i>	-0.004 (-0.216)	-0.029 (-1.053)
<i>Indep</i>	-0.326*** (-4.308)	0.824*** (6.553)
<i>Cap</i>	-0.017*** (-2.914)	0.039*** (3.868)
<i>Top1</i>	0.288 (0.612)	1.034 (1.112)
<i>Broadsize</i>	0.089 (0.486)	0.354 (1.151)
<i>Dual</i>	4.988* (1.929)	-40.092*** (-9.005)
Intercept	Yes	Yes
Industry Fixed Effects	Yes	Yes
Year Fixed Effects	Yes	Yes
Province Fixed Effects	9,108	9,108
R ²	0.088	0.212

5. Summary

To delve deeply into the economic consequences of enhanced judicial independence, this paper conducts a quasi-natural experiment based on the provincial high court's cross-regional exchange program in 2013. The study examines the impact of improved judicial independence on corporate risk-taking. The research finds that judicial independence reduces corporate risk-taking, and this conclusion remains robust after multiple robustness checks. Further analysis reveals notable heterogeneity in the impact of the cross-regional judge exchange policy across firms with different characteristics. From the perspective of analyst pressure, the stronger the analyst pressure, the more pronounced the inhibitory effect of the policy on corporate risk-taking. In terms of retail investor pressure, higher retail investor pressure also intensifies the inhibitory effect of the policy on corporate risk-taking. Regarding institutional share reductions, firms experiencing institutional share reductions exhibit a stronger inhibitory effect on their risk-taking levels due to the policy. The mechanism at play suggests that judicial independence reduces net profits by increasing litigation amounts, thereby increasing performance pressure on corporate managers and inhibiting corporate risk-taking.

Firstly, this paper expands the research on the economic consequences of judicial independence and enriches the study of factors influencing corporate risk-taking. Secondly, it mitigates endogeneity issues by leveraging the quasi-natural experiment of cross-regional judge exchanges at provincial high courts. Lastly, the findings contribute to policymakers' understanding of the role of impartial and independent judiciary in corporate risk-taking and facilitate accurate predictions of the subsequent implementation effects of the cross-regional judge exchange policy. Combining theoretical and empirical insights, this paper proposes the following policy recommendations: Firstly, companies should strengthen supervision and management of corporate norms to foster a conducive environment for business development. Secondly, the government should ensure judicial independence while effectively enhancing the level of the rule of law to promote stable development of enterprises and the market. Thirdly, regulatory authorities should strengthen supervision and guidance of enterprises to ensure their compliance with regulations.

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