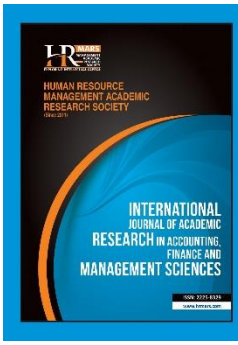

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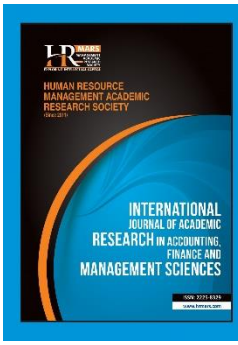
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The Moderating Effect of Labor Market Development on the Relationship between Ownership Structure and Capital Structure: Evidence from Chinese Listed Companies

Chu Wang, Char-Lee Lok
School of Management, Universiti Sains Malaysia, 11800 Gelugor, Penang, Malaysia
Email: wangchu0703@student.usm.my, lokcl@usm.my

Lian Kee Phua Corresponding Author
School of Management, Universiti Sains Malaysia, 11800 Gelugor, Penang, Malaysia
Email: phualk@usm.my

Abstract
This study aims to analyze the impact of ownership structure on corporate capital structure, moderated by labor market development in China. This study uses panel data with 12,305 observations collected for the period 2016-2020, from A-Share Chinese listed firms on Shanghai and Shenzhen Stock Exchanges. The data were analyzed using fixed effect regression. The findings demonstrate that ownership concentration, managerial ownership, and institutional ownership have negative impacts on a firm's leverage supported by agency theory. Additionally, this study indicates that the impact of managerial ownership is mitigated in instances where firms are located in areas with better labor market development. Likewise, the effect of institutional ownership diminishes with better labor market development. This research helps managers to evaluate the impact of ownership structure on firm leverage in Chinese regions with various levels of labor market development. It also informs Chinese policymakers to take full account of the institutional environment of different regions when developing relevant policies on the firm's leverage level and to pay particular attention to geographical differences.
Keywords: Capital Structure, Leverage, Ownership Structure, Labor Market Development, Agency Theory.

Introduction

China is currently struggling with the effects of high leverage. One of the Chinese economy's top priorities in recent decades has been the prevention and control of significant risks, particularly financial risks (Dong et al., 2021). In the report of the 19th National Congress of the Communist Party of China (CPC), one of the five explicit objectives of China's supply-side structural reform was to reduce the non-financial firm's leverage level. Subsequently, the state has continued to introduce relevant policies. For instance, the introduction of the "Three

Red Lines" policy in 2020 to regulate the real estate industry fully reflects the unreasonable capital structure of real estate companies and the high total debt ratio (Gao, 2021). Debt that is within a particular limit can be crucial for promoting economic growth, but when it exceeds that limit, it can seriously harm the economy (Shen et al., 2018). Highly leveraged companies are more likely to default when under persistent financial strain, which could impact the production and operation of companies (Dong et al., 2021).

The development of the labor market varies greatly across geographic areas (Bai et al., 2022; Kim, 2020). Specifically, there are huge inequalities in the distribution of resources among China's 31 provinces, with some regions receiving many resources, while others do not. This leads to differences in the levels of development, which resulted in companies possessing varied degrees of leverage in different regions of China (Huang & Song, 2006). These variations in institutional environment have a significant impact on how corporations finance themselves (Xiao, 2009). In terms of labor market, in the more developed regions of China, there are plenty of decent jobs with high income and promising career opportunities. In addition, the nation's strategic support and the implementation of a talent introduction policy attract a sizable number of skilled and experienced employees. Therefore, the labor market functions well in developed regions. More explicitly, developed regions have well developed labor market, better labor supply conditions, and more competitive environment.

Despite a significant amount of literature on the factors influencing capital structure, existing studies (e.g., Abor & Biekpe, 2007; Huang, 2019) have found that the decision on capital structure is a challenging issue. This problem arises from the fact that there are many theories of capital structure and the quantitative regression models produce inconsistent results (Hussainey & Aljifri, 2012). Therefore, this study focuses on factors that impact on the ownership structure of Chinese companies. Chinese company's ownership structure possesses a number of characteristics. First, the ownership structure in China is heavily concentrated (Liu et al., 2011; Xiao, 2009; Xiao & Liao, 2007). Second, there exists a special type of non-public share, whereby legal persons (so-called institutional investors) play a key role in the company (Xiao & Zou, 2008; Xiao & Liao, 2007; Xiao, 2005). Third, there is a low level of managerial shareholding in China (Hu & Zhou, 2008; Huang & Song, 2006; Xiao & Wang, 2010).

Furthermore, the impact of the macroeconomic environment on corporate capital structure has been underestimated by traditional finance theories (Chang et al., 2019; Daskalakis et al., 2017). Existing studies have focused mostly on examining the direct associations, and ignoring the indirect associations, such as the moderating variables that impact on the capital structure of Chinese companies. Additionally, research into inter-regional capital structures is especially scarce, in particular, the corporate capital structure that operates in different environments. In this context, as documented by Liu et al. (2022) in the emerging literature, little research has analyzed the influence of the labor market on the company's capital structure. Thus, the current study chooses labor market development in each of the China's provinces as a moderator variable, which may influence the relationship between the firms' ownership structure and capital structure under various labor market environments.

Taking account of the above issue, this study aims to analyze the impact of the special characteristic of the company's ownership structure on the firms' capital structure, moderated by the labor market development in China. This study attempts to provide valuable information on the variables influencing company's capital structure.

There are three main contributions to this study. Firstly, the study provides fresh evidence on the interaction between ownership structure and institutions to affect capital structure. Previous research typically focuses on firm level factors (e.g., Daskalakis et al., 2017; Huang & Song, 2006). However, the study enhances research on how labor markets affect capital structure, particularly the moderating effect. It also tests the strategic debt model mentioned by Ellul and Pagano (2019). Specifically, in areas with more advanced labor market, if companies have unutilized debt capacity, they are more aggressive in their strategic use of this leverage to increase their negotiating power with workers and counteract their demands.

Second, it promotes research on the inter-region. Existing studies focus on multiple countries to explore the effect of institutions on capital structure. This study examines the inter-region effect within one country, which is useful for enriching the theoretical basis by reflecting on the operation of corporate capital structures in various institutional contexts. Last but not least, the study also has practical implications. It helps managers to evaluate the impact of ownership structure on firm leverage in Chinese regions with various levels of labor market development. It also informs Chinese policymakers to consider the impact of the labor market when developing relevant policies on the firm's leverage level.

The following sections present the literature review and hypotheses development, the research method, the findings and analyses, and the discussion as well as the conclusion of the study.

Literature review and hypotheses development

Agency theory

The relationship between corporate governance and capital structure is commonly explained by agency theory (Fama & Miller, 1972; Jensen & Meckling, 1976). The major agency issue is the separation of "ownership" and "control". Initially, Berle and Means (1932) noted that in large companies, ownership and control are not the same. Hence, conflicts of interest arise between the shareholders and the management (Jensen & Meckling, 1976). Managers tend to seek maximization of their wealth rather than promoting the interests of the shareholders.

Therefore, the principals often use reasonable mechanisms and pre-controlled agency costs to constrain or motivate the agent's agency behaviors. Debt is one of the tools to constrain agency behavior, and to increase managerial efficiency and organizational performances. Rising debt reduces the amount of free cash flow that the managers can utilize, which lowers the cost of agency. In other words, debt is useful in reducing the amount of cash flow because organizations need to prioritize the repayment of debts. In this way, managers are unable to use the cash flow for luxury consumption and empire building. Thus, debt can mitigate the agency conflicts between shareholders and managers (Hart & Moore, 1994; Jensen, 1986; Jensen & Meckling, 1976).

Ownership Concentration and Capital Structure

The link between ownership concentration and capital structure has been discussed by many researchers. Ownership concentration appears to have a positive connection with capital structure. Commonly, majority shareholders possess more power and authority to monitor and to influence management decisions (Sheikh & Wang, 2012; Murtaza & Azam, 2019). Majority shareholders could compel management to act in a way that maximizes shareholder wealth (Pindado & De La Torre, 2011). They might demand higher levels of debt

due to the advantage of tax shields (Feng et al., 2020; Fosberg, 2004). However, Hong and Song (2006) found no relation between these two variables, which is consistent with Le and Tannous's (2016) findings.

Conversely, when majority shareholders dominate a firm, agency problems occur primarily between majority shareholders and minority shareholders (Liu et al., 2011). Minority shareholders will suffer as a result of the majority shareholders' pursuit of their own personal interests (Shleifer & Vishny, 1997). In this regard, due to the lack of pressure on debt repayment, equity financing is the best option to raise money for majority shareholders (Xiao, 2005). As a result, ownership concentration and debt ratio are inversely related.

From an agency theoretical viewpoint, ownership concentration can diminish the agency issue between the shareholders and the managers (Boateng et al., 2017; Wang et al., 2018; Wang & Wu, 2007). This is because ownership concentration helps in disciplining managers (Shleifer & Vishny, 1997). Briefly, large ownership enhances the monitoring of managers, lowers managerial opportunism and agency conflicts, leading the firm to engage less debt (Le & Tannous, 2016). Thus, the first hypothesis is:

Hypothesis 1 (H1): There is a negative relationship between ownership concentration and the firm's leverage level.

Managerial Ownership and Capital Structure

Numerous studies have examined this issue to date, and they have found that there is a positive correlation between managerial ownership and debt ratio. For instance, Bokpin and Arko (2009) claimed that managers who own the company's shares often choose debt financing over equity financing, due mainly to the tax benefits that come with the leverage, which raises shareholders' wealth and also increases the managers' income. Consistent with this view, Bajagai et al (2018) also contented that managerial ownership has a positive effect on company leverage. Others (e.g., Dimitropoulos, 2014; Le & Tannous, 2016) have shown that managerial ownership appears to be positively connected to the debt ratio. However, according to Pindado and De La Torre (2011); Feng et al (2020), there is no correlation between managerial ownership and the firm's debt level.

Conversely, according to Ahmed Sheikh and Wang (2012), a firm may be able to reduce the agency problem between the shareholders and the management if it has a high level of management ownership. This result is confirmed by Bathala et al (1994), as well as Crutchley and Jensen (1996). Other studies that support this negative relationship are (Xiao, 2005; Hong and Song, 2006; Wang and Wu, 2007).

Agency theory predicts that agency problems between managers and shareholders might occur. This is because managers often consume more wealth than is necessary and invest resources in ways that deplete capital, wasting them on assets that increase organizational inefficiencies. Even though managers fully profit from these operations, they bear less accountability than they should (Sheikh & Wang, 2012). As documented by Jensen and Meckling (1976), the shareholders' and the managers' interests are increasingly closely linked as manager ownership of the company's shares rises. Hence, managerial ownership could help a company mitigate agency costs (Grier & Zychowicz, 1994). In this context, managerial ownership acts as an incentive mechanism to reduce agency problems, which makes the use of debt as a means of resolving conflict redundant.

Although prior research has shown inconsistent results, the hypothesis employed in this study is based on the agency theory. Hence

Hypothesis 2 (H2): There is a negative relationship between managerial ownership and the firm's leverage level.

Institutional ownership and capital structure

There have been different suggestions proposed by past studies on the possible impact of institutional ownership and debt ratio. Institutional ownership acts as an additional monitoring instrument for the company's operations, and effectively lowers the cost of debt capital (Bajagai et al., 2018; Sun et al., 2016). The findings revealed that companies with greater institutional ownership are more likely to have higher debt levels. In the same vein, some authors have concluded that institutional shareholding is positively associated with leverage (Agyei & Owusu, 2014; Dimitropoulos, 2014; Huang & Song, 2006).

Bathala et al. (1994) suggested that institutional ownership is inversely correlated with leverage. This implies that institutional ownership is useful in mitigating agency costs in the company. As pointed out by McConnell and Servaes (1995), institutional investors could be more effective in monitoring manager behavior. It is in line with some earlier empirical research, including that presented by (Chaganti and Damanpour, 1991; Xiao, 2004; Al-Najjar and Taylor, 2008).

In the context of agency theory, institutional investors can reduce the moral hazards of managers by closely observing company performance (Jensen, 1986; Shleifer & Vishny, 1986). Hence, institutional ownership is useful in mitigating agency problems in the company (Bathala et al., 1994). Specifically, due to their sizeable stock market holdings, institutional investors are essentially external monitors (Agrawal & Mandelker, 1990). Institutional shareholders have more incentives and control over management than minority shareholders because of their huge shareholdings (Grossman & Hart, 1980). They get higher profit through closely monitoring the managers' behaviors, and they have more power in terms of vote to oppose the financial policies that lower shareholders' gain (Ashbaugh-Skaife et al., 2006; Bhojraj & Sengupta, 2003). In this situation, as institutional ownership increases, the need for debt as a monitoring tool will decrease.

Given the above argument, the study develops the hypothesis on institutional ownership as follows

Hypothesis 3 (H3): There is a negative relationship between institutional ownership and the firm's leverage level.

Labor market Development and Capital Structure

As documented by Liu et al (2022), in the emerging literature, little research has analyzed how the labor market affects capital structure. Kim (2020) pointed out that there is a positive correlation between the size of the labor market and corporate capital structure. He proposed that job loss is less expensive in a bigger labor market, which decreases the indirect cost of the financial crisis. In an earlier study, Agrawal and Matsa (2013) noted that the labor market greatly influences corporate financing decisions and found that an increase in leverage is related to a decrease in the likelihood of labor force unemployment.

In contrast, Liu et al (2022) contend that the expansion of labor market raises the cost of financial distress and lowers the firm's level of debt. Supporting this idea, Berk et al (2010) reveal that employees with more negotiating power will demand a bigger salary premium for taking on the risk of financial distress, increasing its indirect cost and decreasing leverage incentives. Moreover, Bai et al (2022) show that local labor market competition will restrict

the employers' negotiating power and allow employees to bargain higher salaries, which will lower profit margins and lessen the incentive for firms to borrow in order to seek tax shield. Similarly, the labor market may have an impact on the indirect costs of financial stress, which may limit a firm's capacity to adapt to the economic environment and increase its risk of bankruptcy (Serfling, 2016; Kahl et al., 2011).

Labor market competition will alter the relative negotiating power of employers and employees in labor negotiations, which will affect firms' financing decisions (Bai et al., 2022). In the more developed regions of China, a developed labor market gives workers more negotiating power when it comes to determining wages, which leads to high labor costs. Because they have more outside options and can compete with one company against another (Azar et al., 2020; Qiu & Sojourner, 2019). However, debt can be utilized as a strategic tool to increase a firm's negotiating power with workers and counteract their demands (Ellul & Pagano, 2019; Matsa, 2018). Based on the strategic debt model, firms balance the strategic debt model with the model with financial restrictions (Ellul & Pagano, 2019). More specifically, firms tend to be more aggressive in their strategic use of this leverage for companies that are not financially limited. Hence, the following hypotheses are presented:

Hypothesis 4 (H4): Labor market development mitigates the effect of ownership concentration on the firm's leverage level.
Hypothesis 5 (H5): Labor market development mitigates the effect of managerial ownership on the firm's leverage level.
Hypothesis 6 (H6): Labor market development mitigates the effect of institutional ownership on the firm's leverage level.

Research Methodology

Research Sample and Data Collection

The targeted population comprised listed companies on the A-Shares Board in the Shanghai and Shenzhen stock exchange markets from 2016 to 2020. The study excluded financial companies, firms with missing data, and companies with a debt ratio of more than 1. Finally, we had 12,305 firm-year observations for a total of 2,461 firms. Additionally, the data about ownership structure of the sample were sourced mainly from the China Stock Market and the Accounting Research Database (CSMAR).

Meanwhile, labor market development data was sourced from the China Market Index Database. This database is a standard index system with several indicators that measure the level of marketization in China's 31 provinces, autonomous regions, and municipalities (excluding Taiwan, Macau, and Hong Kong) in a variety of ways. The database only provided data up to 2019, the data for 2020 will only be published in year 2023. Therefore, we adopted Wu et al.'s (2017) method to compute and construct the index for 2020. The 2020 index was equivalent to the 2019 index plus the average of the three years of value added in 2017, 2018, and 2019.

Methodology

According to prior studies, there are several methods to measure capital structure. Different studies have different ideas about which is a better measure of capital structure. Some researchers propose the use of books, while others argue for the use of market measures. According to Salam and Shourkashti (2019); Wang et al (2018); Li et al (2009),

capital structure (TD) is measured as the proportion of the book value of total liabilities to the book value of total assets in this study.

In terms of independent variables, ownership concentration (OC) is measured by the percentage of shares held by the top five shareholders of the firm, which is consistent with Murtaza and Azam (2019); Le and Tannous (2016); Boateng et al.,2017). According to Xiao (2005) and Huang and Song (2006), managerial ownership (MO) is represented by the shareholdings of directors, supervisors, and top management divided by the total shares in this study. Following Bajagai et al (2018); Dimitropoulos (2014), institutional ownership (IO) is defined as the shareholding of institutional investors divided by the total number of shares.

Moving to the moderator variable, labor market development (LABOR) is an index that measures the extent of 31 regional labor market development in mainland China, as measured by the availability of technical staff, managers, and skilled workers. The minimum and maximum values for each component are specified to be 0 and 10, and higher scores indicate greater development. It is consistent with (Xiao, 2009; Liu et al., 2011). Control variables include firm size, firm growth, tangibility, and profitability.

The study was conducted using panel data, which was a mixture of time series and cross-section data. To test the research hypotheses, we built a multiple linear regression model to evaluate how ownership structure affected the firm's leverage level. In addition, the study also examined the moderating impact of labor market development on the relationship between ownership structure and capital structure. In order to do this, the models for this study were as follows:

$$TD_{it} = \alpha + \beta_1 OC_{it} + \beta_2 MO_{it} + \beta_3 IO_{it} + \beta_4 SIZE_{it} + \beta_5 GROW_{it} + \beta_6 TANG_{it} + \beta_7 PROF_{it} + \varepsilon_{it} \quad (1)$$

$$TD_{it} = \alpha + \beta_1 OC_{it} + \beta_2 MO_{it} + \beta_3 IO_{it} + \beta_4 DLABOR_{it} + \beta_5 OC_{it} \times DLABOR_{it} + \beta_6 MO_{it} \times DLABOR_{it} + \beta_7 IO_{it} \times DLABOR_{it} + \beta_8 SIZE_{it} + \beta_9 GROW_{it} + \beta_{10} TANG_{it} + \beta_{11} PROF_{it} + \varepsilon_{it} \quad (2)$$

Where:

TD	= Ratio of total liabilities divided by total assets
OC	= Ratio of shares held by the top 5 shareholders divided by the total shares
MO	= Raito of shares held by directors, supervisors, and top management divided by the total shares
IO	= Ratio of shares owned by institutional investors to the total shares
DLABOR	= dummy variable value taking of 1 for LABOR > MEAN, otherwise 0. LABOR is an index measured by the availability of technical staff, managers, and skilled workers. The minimum and maximum values for each component are specified to be 0 and 10, and higher scores indicate greater development.
SIZE	= The natural logarithm of total assets
GROW	= The market-to-book ratio of total assets
TANG	= Ratio of fixed assets over total assets

PROF = Ratio of earnings before interest and tax over total assets

Results and Discussion

Descriptive Statistics

The descriptive statistics for all variables used in this study are depicted in Table 1. The mean value of the leverage is less than 50% and varies widely across Chinese listed companies, with the minimum being 1% and the maximum being 99%. Furthermore, the average level of ownership concentration is 51% (median = 51%), denoting that the majority of equity in Chinese listed firms is concentrated in the top five shareholders. The average managerial ownership is 10%, which means that Chinese listed firms have less managerial ownership and the status of managerial shareholding incentives of Chinese listed companies is not optimistic. Additionally, the institutional ownership's mean and median values are 5% and 0% respectively, indicating that institutional investors are not dominating. The average index of labor market development is 4.75, which shows that labor market in regions with scores above 4.75 is highly competitive.

Table 1
Descriptive Statistics

Variable	N	Mean	Median	SD	Min	Max
TD	12305	0.43	0.43	0.20	0.01	0.99
OC	12305	0.51	0.51	0.15	0.07	0.99
MO	12305	0.10	0.00	0.16	0.00	0.83
IO	12305	0.05	0.00	0.12	0.00	0.91
LABOR	12305	4.75	4.37	1.91	0.83	8.70
SIZE	12305	22.54	22.36	1.32	18.49	28.64
GROW	12305	1.97	1.55	1.46	0.67	26.82
TANG	12305	0.21	0.17	0.16	0.00	0.95
PROF	12305	0.04	0.05	0.09	-1.83	0.79

Notes: TD = leverage, the ratio of liabilities to total assets. OC = ownership concentration, the ratio of shares held by the top 5 shareholders divided by the total shares. MO = managerial ownership, the ratio of shares held by directors, supervisors, and top management to the total shares. IO = institutional ownership, the ratio of shares owned by institutional investors to the total shares. LABOR = labor market development, an index measured by the availability of technical staff, managers, and skilled workers. SIZE = firm size, the natural logarithm of total assets. GROW = firm growth, the market-to-book ratio of total assets. TANG = tangibility, the ratio of fixed assets to total assets. PROF = profitability, the ratio of earnings before interest and tax to total assets.

Correlation Analysis

The Pearson correlation matrix for the sample variables is presented in Table 2. Leverage is positively associated with ownership concentration (0.037). On the contrary, leverage has a negative link with managerial ownership (-0.251) and institutional ownership (-0.045). However, in terms of the moderator variable, leverage has a non-significant

relationship with labor market development. In addition, leverage is also correlated with a variety of control variables. For example, leverage is positively associated with firm size and tangibility, but negatively correlated with firm growth and profitability.

Table 2
Pearson Correlation Matrix

	TD	OC	MO	IO	LABOR	SIZE	GROW	TANG	PROF
TD	1								
OC	0.037***	1							
MO	-0.251***	0.009	1						
IO	-0.045***	0.178***	-0.039***	1					
LABOR	0.013	0.003	0.011	-0.075***	1				
SIZE	0.504***	0.276***	-0.275***	0.010	0.091***	1			
GROW	-0.284***	-0.066***	0.045***	-0.059***	-0.017*	-0.403***	1		
TANG	0.032***	0.092***	-0.154***	-0.043***	-0.189***	0.076***	-0.088***	1	
PROF	-0.178***	0.161***	0.044***	0.054***	-0.044***	0.117***	0.087***	0.039***	1

Notes: ***significant at 1% level. **significant at 5% level. *significant at 10% level. TD = leverage, the ratio of liabilities to total assets. OC = ownership concentration, the ratio of shares held by the top 5 shareholders divided by the total shares. MO = managerial ownership, the ratio of shares held by directors, supervisors, and top management to the total shares. IO = institutional ownership, the ratio of shares owned by institutional investors to the total shares. LABOR = labor market development, an index measured by the availability of technical staff, managers, and skilled workers. SIZE = firm size, the natural logarithm of total assets. GROW = firm growth, the market-to-book ratio of total assets. TANG = tangibility, the ratio of fixed assets to total assets. PROF = profitability, the ratio of earnings before interest and tax to total assets.

Regression Results

Basically, there are three methods for estimating panel data regression models, namely the Ordinary Least Square (Pooled Least Square), Fixed Effect Model (FEM), and Random Effect Model (REM) (Gujarati, 2004). In this study, the Hausman test indicates that the FEM is the best among the three estimation models, and the robust FEM is used for data analyses.

The results of the panel regression analyses are presented in Table 3. In Model 5, there is a negative relationship between leverage and ownership concentration at the level of 1% and this result supports H1. According to the agency theory, ownership concentration can reduce the agency problem. The evidence suggests that large ownership can monitor more effectively and efficiently the managers' behavior, and has more power to affect management decisions. Convergence of interest between the owner and managers reduces the agency cost, resulting in lower leverage for companies. Moreover, as we reported in Table 3, the study finds a negative correlation between managerial ownership and leverage. The results provide empirical evidence to support H2 that the agency issue between managers and shareholders is mitigated as management shareholding rises, which reduces agency costs due to the convergence of interests between the owner and management. Regarding the influence of institutional ownership, the study suggests that institutional ownership is negatively associated with leverage, supporting H3. This means that institutional ownership is useful in mitigating agency problems, thereby reducing the need for the use of debt as a monitoring tool.

In terms of the moderating effect, with regard to managerial ownership, Model 6 shows the estimated coefficient on the interaction between managerial ownership and labor market development is positive. The results provide empirical evidence to support H5 that the effect of management ownership on leverage may diminish in regions with more advanced labor market development. Similarly, labor market development moderates the relationship between institutional ownership and leverage. Therefore, the result is consistent with H6. Additionally, Model 6 shows a non-significant effect on the interaction between ownership concentration and labor market development. Consequently, we reject H4.

Moving to control variables, all the control variables are statistically significant. For example, firm size positively affects leverage, verifying previous evidence that larger companies are more diversified and have less risk of bankruptcy, and therefore leverage grows with company size. The same result is provided by the study of Bajagai et al. (2018). Further, firm growth exerts a negative influence on leverage, which is consistent with Kieschnick and Moussawi (2017). This denotes that companies with rapid growth typically have a lower debt ratio. Additionally, tangibility and leverage have a positive relationship as well, which is a result duplicated by Huang and Song (2006). The results suggest that more tangible assets increase a company's ability to issue secured debt, allowing them to borrow more easily. Finally, the impact of profitability and leverage is negative, indicating that a business should use less debt and retain more earnings for investment. A.A Zaid et al. (2020) also agree with this result.

Table 3
Regression Results

	OLS		**REM**		**FEM**	
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
Variables						
OC	-0.081***	-0.084***	-0.115***	-0.095***	-0.084***	**-0.079*** **
	(-7.53)	(-6.00)	(-8.91)	(-6.82)	(-7.96)	(-5.77)
MO	-0.133***	-0.156***	-0.056***	-0.074***	-0.103***	**-0.135*** **
	(-13.83)	(-13.05)	(-4.60)	(-5.87)	(-10.77)	(-11.44)
IO	-0.068***	-0.083***	-0.061***	-0.072***	-0.069***	**-0.086*** **
	(-5.66)	(-6.04)	(-8.33)	(-8.72)	(-5.77)	(-6.34)
DLABOR	-0.014***	-0.027**	-0.004**	0.006	-0.018***	**-0.024** **
	(-4.54)	(-2.30)	(-2.42)	(0.96)	(-5.37)	(-2.05)
OC × DLABOR		0.010		-0.036***		-0.009
		(0.46)		(-3.02)		(-0.46)
MO × DLABOR		0.058***		0.063***		**0.081*** **
		(3.26)		(5.94)		(4.68)
IO × DLABOR		0.054*		0.030**		**0.059** **
		(1.94)		(2.01)		(2.20)
SIZE	0.074***	0.074***	0.086***	0.086***	0.067***	0.067***
	(55.89)	(55.72)	(47.36)	(47.26)	(49.55)	(49.47)
GROW	-0.010***	-0.010***	-0.002***	-0.002***	-0.008***	-0.008***
	(-6.32)	(-6.37)	(-3.25)	(-3.25)	(-4.90)	(-4.92)
TANG	-0.026***	-0.028***	0.063***	0.061***	0.049***	0.047***
	(-2.60)	(-2.77)	(5.70)	(5.55)	(4.37)	(4.22)
PROF	-0.463***	-0.462***	-0.302***	-0.303***	-0.444***	-0.444***
	(-16.88)	(-16.88)	(-35.28)	(-35.41)	(-16.58)	(-16.61)
Constant	-1.130***	-1.126***	-1.424***	-1.437***	-0.990***	-0.991***
	(-36.07)	(-35.01)	(-34.96)	(-34.78)	(-28.81)	(-28.22)
Observations	12,305	12,305	12,305	12,305	12,305	12,305
R-squared	0.331	0.332	-	-	0.387	0.389
Industry FE	NO	NO	NO	NO	YES	YES

Year FE	NO	NO	NO	NO	YES	YES

Notes: ***significant at 1% level. **significant at 5% level. *significant at 10% level. OC = ownership concentration, the ratio of shares held by the top 5 shareholders divided by the total shares. MO = managerial ownership, the ratio of shares held by directors, supervisors, and top management to the total shares. IO = institutional ownership, the ratio of shares owned by institutional investors to the total shares. DLABOR = labor market development, a dummy variable coded 1 if LABOR >MEAN, otherwise 0. SIZE = firm size, the natural logarithm of total assets. GROW = firm growth, the market-to-book ratio of total assets. TANG = tangibility, the ratio of fixed assets to total assets. PROF = profitability, the ratio of earnings before interest and tax to total assets.

Robustness Test

This study also conducted regression analyses using alternative variables to ensure that the results are stable. More specifically, in terms of ownership concentration, we changed the proportion of shares held by the top 5 shareholders to the proportion of shares owned by the largest shareholder. As a further check on the regression results, we employed the ratio of long-term debt divided by long-term debt plus book value of equity as the leverage, which is consistent with Huang and Song's (2006) suggestion. Furthermore, regarding the aspect of firm growth, the market-to-book ratio of total assets was replaced by the growth rate of total assets measured by a percentage change in total assets. Finally, in terms of profitability, it was replaced by a ratio of net income to total assets. Table 4 displays the results of the regression. With the exception of one control variable, the findings are similar to those in Table 3. Growth and the firm's leverage had a positive link, which was formerly negative.

Table 4
Robustness Test

		FEM
	Model 1	**Model 2**
Variables		
OC[1]	-0.050***	**-0.047*** **
	(-5.93)	(-4.34)
MO	-0.015**	**-0.030*** **
	(-2.12)	(-3.57)
IO	-0.020**	**-0.034*** **
	(-2.10)	(-3.08)
DLABOR	-0.008***	**-0.012***
	(-2.83)	(-1.88)
OC[1]×DLABOR		-0.005
		(-0.28)
MO×DLABOR		**0.038*** **
		(2.88)
IO×DLABOR		**0.051** **
		(2.44)
SIZE	0.053***	0.053***
	(47.71)	(47.61)
GROW[1]	0.006***	0.006***

	(4.68)	(4.68)
TANG	0.118***	0.117***
	(11.75)	(11.64)
PROF[1]	-0.341***	-0.340***
	(-13.24)	(-13.25)
Constant	-1.036***	-1.037***
	(-38.64)	(-37.89)
Observations	12,305	12,305
R-squared	0.405	0.405
Industry FE	YES	YES
Year FE	YES	YES

Notes: ***significant at 1% level. **significant at 5% level. *significant at 10% level. OC[1] = ownership concentration, the ratio of the shares owned by the largest shareholders. MO = managerial ownership, the ratio of shares held by directors, supervisors, and top management to the total shares. IO = institutional ownership, the ratio of shares owned by institutional investors to the total shares. DLABOR = labor market development, a dummy variable coded 1 if LABOR >MEAN, otherwise 0. SIZE = firm size, the natural logarithm of total assets. GROW[1] = firm growth, the growth rate of total assets. TANG = tangibility, the ratio of fixed assets to total assets. PROF[1] = profitability, the ratio of net income to total assets.

Conclusion

The impact of ownership structure of Chinese listed firms on the firms' capital structure is analyzed in this empirical study. Additionally, to enrich the literature beyond the narrow perspective, this study investigates the moderating effect of labor market development on the association between ownership structure and capital structure.

Based on the analyses in this study, it is clear that the agency theory arguments managed to explain the entrenched logic behind the impact of ownership structure on the firm's leverage. This study has shown that large shareholders of Chinese firms have more control over management, which lowers agency costs and alleviates the use of debt as a monitoring mechanism. As for the negative correlation between managerial ownership and the leverage of the firm, it suggests that the interests of shareholders and managers are increasingly closely linked as manager ownership of the company's shares increases. Managerial ownership acts as an incentive mechanism to reduce agency problems, resulting in the elimination of the use of debt as a means of resolving agency conflict. In terms of institutional ownership, the finding suggests that it can reduce agency problems, resulting in lower debt in firms with higher institutional ownership.

The research further investigates the moderating impact of labor market development on the direct relationship. It is observed that labor market development not only has a negative direct correlation with the leverage of the firm but also moderates the relationship between ownership structure and the company's leverage level. The result indicates that the relationship between ownership structure and the firm's leverage is moderated by labor market development. This means that the effect of ownership structure on the firm's leverage varies according to the level of labor market development in the regions. Specifically, the findings of the study reveal that the effect of management ownership and institutional ownership on the firm's leverage level will be diminished in regions with higher level of labor

market development. It reveals that a developed labor market gives employees more negotiating power, which leads to high labor costs. Therefore, debt can be utilized as a strategic tool to increase a firm's negotiating power with workers (Matsa, 2018). If companies have unutilized debt capacity, they are allowed to borrow more debt to increase their negotiating power with workers and counteract their demands (Ellul & Pagano, 2019). In terms of firms with high management and institutional ownership, they have unutilized debt capacity due to their low agency cost and low leverage. In this context, firms are located in areas with more advanced labor market, and they are more aggressive in their strategic use of this leverage for companies, which is consistent with the strategic debt model (Ellul & Pagano, 2019).

The findings of the study provide insights from the perspectives of labor market development and China's unique ownership structure. In regions with different levels of labor market development, the impact of ownership structure on the capital structure may differ. This may help managers to evaluate the influence of such factors on firm's leverage levels in different Chinese regions. On the other hand, for the policymakers, it is important to consider the institutional environment of different regions when developing relevant policies on the firm's leverage level and to pay particular attention to geographical differences. In addition, the study has limitations. Specifically, the study focuses only on the impact of ownership structure. Future research can expand the study to cover the effects of additional factors on different institutional environments and investigate other moderators in order to provide a more complete knowledge of the factors influencing the firm's capital structure.

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