Research on the Relation of Investors’ Legal Protection and Financial Constraints: Based on the Mediating Effect of Directors’ Background Characteristics

Zhuling Fan*
School of Economics and Management, Nanjing Tech University, Nanjing 211800, China
*Corresponding author e-mail: fanfanfanzl@126.com

Abstract. Based on resource dependence theory, we adopted the research design, that is External environment changes - Board Composition-the capacity of resource acquisition, and used the pane-l data of A share listed companies from 2007-2013 to analyze the impact of investors’ legal protection on financial constraints. The results show that investors’ legal protection can reduce financial constraints significantly, has a significant impact on directors’ background characteristics. The effects of investors’ legal protection on financial constraints partly through directors’ background characteristics, which acts as partial mediating variable between investors’ legal protection and financial constraints.

1. Introduction
The existence of agency conflict and information asymmetry in the capital market makes the external financing cost of the enterprise significantly higher than the internal financing cost, resulting in the financing constraints. But in the process of enterprise operation, as one of the external environmental factors, the investors’ legal protection will also affect the financing behavior of enterprises. As one of the most important external environment of the enterprise, the legal protection of investors can change the asymmetry of the dependence between the enterprise and the owner of the resource, enhance the control of the resource allocation and use of the enterprise, and then improve the ability of the resource acquisition. Therefore, it is helpful to understand the formation of financing constraints better from the perspective of investors' legal protection environment.

2. Literature review
2.1. Legal protection and financing constraints of investors
The legal protection of the investors can reduce the financing cost by reducing the insider trading, improving the quality of information disclosure, and enhancing the corporate governance level, and then reduce the financing constraints of the enterprises. The protection of the interests of the creditors will also affect the credit contract between the banks and the enterprises, so that the enterprises can obtain more bank debt financing, longer debt maturity and lower interest rates. The improvement of investors' legal protection measures can reduce the cost of equity capital, but the role of law is limited, and the enforcement of law is obvious. Shen Yifeng found that investor protection is one of the
important factors that affect the cost of equity financing and financing constraints of Listed Companies in China.

2.2. The characteristics of the director's background and financing constraints
As a basic institutional arrangement of corporate governance, the board of directors is not determined by exogenous circumstances, but determined by the contractual environment faced by the company. Lehn believes that the stronger protection of shareholders' rights by law will enhance the independence of the board. Scholars have found that directors with bank background can provide channels and suggestions for financing behavior of enterprises as financial experts, or reduce information asymmetry by improving the flow of information between banks and enterprises, and help enterprises obtain funds from banks. The coordination function of the government's background directors can enable enterprises to obtain more debt financing, or to obtain more tax incentives in the form of tax relief, tax return and aid to enterprises in financial distress.

3. Theoretical analysis and research hypothesis

3.1. Legal protection and financing constraints of investors
Firstly, investors' legal protection can alleviate the asymmetric dependence between enterprises and investors. Under the modern corporate governance mode, controlling shareholders may transfer resources and seek private benefits from Listed Companies in many ways. The protection of shareholders' voting rights and creditors' reorganization and liquidation rights will help to reduce the private benefits of controlling shareholders' control rights. Secondly, investors' legal protection can alleviate the asymmetric dependence between enterprises and financial institutions. The legal protection of investors can improve the confidence and enthusiasm of investors to participate in the securities market, promote the conversion of savings to investment, and ultimately promote the expansion of the scale of the capital market and the improvement of the efficiency of the allocation of financial resources, so as to alleviate the problem of enterprise financing. Based on the above analysis, the following assumptions are put forward:

H1: Investors' legal protection level can reduce the degree of corporate financing constraints.

3.2. Investor legal protection, directors' background characteristics and financing constraints
According to the division of resources to directors provided by Hillman, this paper divides directors into directors, professional backgrounds and business backgrounds of public service backgrounds. The business background director is able to establish a relationship financing channel with the owner of the resource owner in the transaction domain through the chain relationship resources accumulated by the directors in the larger and more mature enterprises in the other scale. Therefore, the characteristics of the director's background can play a role in the acquisition of the enterprise resources, and the environmental characteristics of the investor's legal protection can affect the financing constraints of the enterprise by influencing the characteristics of the director's background. The following assumptions are put forward:

H2: The better the legal protection of investors, the higher the proportion of directors of public service backgrounds, directors of professional backgrounds and business background directors in the board.

H3: The legal protection of investors affects the financing constraints of the enterprise by influencing the characteristics of the director's background, the characteristics of the director's background are the intermediary variables between the investor's legal protection and the financing constraints.
4. Sample selection and research design

4.1. Sample selection
This paper selects 2009-2015 years’ A share listed companies as research samples. For the reliability of the data, to eliminate the number of less than ten companies, after January 1, 2006, and the companies with incomplete financial or governance information, the final sample is 7499 lines of observation. Data were obtained from CSMAR database and hand processed, and data were processed and analyzed under Stata13 software. In addition, this paper deals with the extreme value of financial variables at the level of up to 1%.

4.2. The definition of a variable
(1) Financing constraints (DFC)
Referring to Kaplan, the sample is ranked according to the interest guarantee multiple and the size of the enterprise. At the same time, the first 1/3 samples are low financing constraint group (FC=0), and the second 1/3 is the high financing constraint group (FC=1), with a total of 2016 observed values. Then, we choose the ROE, LEV, DIV, the market value and the book value ratio (MB) and the net operating capital (NWC) to build the Logit model to calculate the degree of financing constraints of the enterprise (the result is slightly). The closer the DFC is to 1, the greater the degree of financing constraints.

\[ DFC_{it}(FC = 1or0 | Z_{it}) = \frac{1}{1 + e^{-Z_{it}}} \quad \text{and,} \]
\[ Z_{it} = \beta_0 + \beta_1 \cdot LEV + \beta_2 \cdot NWC + \beta_3 \cdot ROE + \beta_4 \cdot MB + \beta_5 \cdot DIV \]  

(1)

(2) Legal protection of investors (INVPRO)
LLSV designs investor protection indicators from 7 aspects, but it mainly designs indicators from the national level. Referring to Jiang Fuxiu, this article measures the degree of legal protection of the investors in five aspects from the investor's right to know (the type of audit opinion), the equal rights of the shareholders to the interests of the company (large shareholders and related transactions), the maximization of the wealth of shareholders (profitability, market evaluation and profit potential), the return on investment (cash dividends, stock dividends and stock gains) and public equity Si Chengxin (cross listed and punished by the SFC), and then the indexes and measures of the investor protection index system are adjusted.

(3) The characteristics of the director's background
1) Professional background characteristics
Referring to Tan Jinsong's definition of the director's professional background, this paper defines a director with a background of professional knowledge as a director with a banking, financial and legal background to measure the professional background characteristics in proportion to the scale of the board of directors.

2) Business background features
Referring to Ma Lian Fu, this article defines it by the standards of directors or other senior managers in other companies and measures the business background characteristics in proportion to the scale of the board of directors.

3) The characteristics of the public service background (PSBJ)
According to the research of Hillman, the leaders of former government officials, school teachers, and social groups (various associations, associations, foundations) are used as standards, and the proportion of directors with public service background in the board of directors is used as a measure of the public service background of the directors.
4.3. Empirical model

The following three models are used to test the hypothesis of mediation effect proposed in this paper.

\[ DFC_{ij} = \alpha_0 + \alpha_1 \cdot INVPRO_{ij} + \alpha_2 \cdot CONTROLS_{ij} + \varepsilon_{ij} \]  \hspace{1cm} (2)

\[ DIRBAC_{ij} = \beta_0 + \beta_1 \cdot INVPRO_{ij} + \beta_2 \cdot CONTROLS_{ij} + \varepsilon_{ij} \]  \hspace{1cm} (3)

\[ DFC_{ij} = \gamma_0 + \gamma_1 \cdot INVPRO_{ij} + \gamma_2 \cdot DIRBAC_{ij} + \gamma_3 \cdot CONTROLS_{ij} + \varepsilon_{ij} \]  \hspace{1cm} (4)

Among them, DFC refers to the degree of corporate financing constraints; INVPRO is the legal protection of investors; DIRBAC is the characteristics of the background of the directors, namely, the public service background (PSBJ), the business background Director (SYBJ) and the professional background Director (ZYBJ). The control variables in models (2) and (4) include company size (SIZE), business income growth rate (INC), investment opportunity (Q), asset liability rate (LEV), capital expenditure (EXPEN) and enterprise nature (STATE). The control variables in model (3) include company size (SIZE), investment opportunity (Q), asset liability rate (LEV), board size (DIRN), management stock ratio (MANG), business income growth rate (INC) and enterprise nature (STATE).

5. Empirical results and analysis

5.1. Correlation analysis

The Pearson correlation coefficient matrix of research variables shows a significant negative relationship between investor legal protection (INVPRC) and financing constraints (DFC), and preliminarily verifies that investor protection has a negative impact on financing constraints. The correlation coefficient of the variables, except the relationship between the financing constraints and the scale of the enterprise, is low, so there is no serious problem of multiple collinearity. The variance expansion factor (VIF) value is less than 3, indicating that multicollinearity is not the accuracy of the results.

5.2. Regression analysis

(1) Investors' legal protection and financing constraints

Table 1. The influence of legal protection of investors on Financing Constraints.

| Variable  | DFC        | \( \beta \)   |
|-----------|------------|---------------|
| INVPRO    | -0.011***  | (-5.217)      |
| SIZE      | -0.290***  | (-14.673)     |
| Q         | 0.045***   | (28.617)      |
| LEV       | -0.380***  | (-14.174)     |
| INC       | -0.008***  | (-3.90)       |
| EXPEN     | 0.022      | (0.939)       |
| STATE     | -0.024**   | (-2.130)      |
| Cons      | 7.477**    | (18.774)      |

| N         | 7499       |
| \( R^2 \) | 0.733      |
| adj. \( R^2 \) | 0.682 |
| F         | 238.918    |
(2) Investor protection, directors' background characteristics and financing constraints

Table 2. Investor protection, directors' background characteristics and financing constraints.

|                  | DFC  | (1) | (2) | (3) |
|------------------|------|-----|-----|-----|
| INVPRO           |      | -0.004*** | -0.008*** | -0.009*** |
|                  |      | (-2.152) | (-5.326) | (-4.107) |
| ZYBJ             |      | -0.074*** |     |     |
|                  |      | (-3.522) |     |     |
| PSBJ             |      |     | -0.043* |     |
|                  |      |     | (-1.649) |     |
| SYBJ             |      |     |     | -0.040* |
|                  |      |     |     | (-1.880) |
| SIZE             |      | -0.134*** | -0.290*** | -0.195*** |
|                  |      | (-20.608) | (-14.802) | (-17.041) |
| Q                |      | 0.038*** | 0.045*** | 0.044*** |
|                  |      | (23.451) | (28.409) | (27.797) |
| LEV              |      | -0.236*** | -0.326*** | -0.297*** |
|                  |      | (-9.362) | (-13.223) | (-11.911) |
| INC              |      | -0.008*** | -0.008*** | -0.008*** |
|                  |      | (-3.936) | (-3.755) | (-3.771) |
| EXPEN            |      | 0.029*** | 0.082*** | 0.091*** |
|                  |      | (1.965) | (1.967) | (0.083) |
| STATE            |      | -0.018* | -0.024* | -0.024* |
|                  |      | (-1.656) | (-2.174) | (-2.113) |
| Cons             |      | 3.227*** | 7.387*** | 5.131*** |
|                  |      | (31.234) | (18.686) | (24.191) |

N 7499 7499 7499
adj. R² 0.741 0.733 0.735
F 239.134 209.354 218.719

5.3. Conclusions
The results show that the legal protection of investors in the external environment can influence corporate financing constraints, and also affect the background characteristics of directors. The adjustment of directors' background characteristics based on investors' legal protection environment can enhance the control of resources allocation and utilization and reduce financing constraints. Investors' legal protection affects the financing constraints of directors through the background characteristics of directors. In this process, the background characteristics of directors play a partial intermediary role.

6. Suggestions
In China, the lack of funds has been restricting the survival and development of enterprises. The difference of investors' legal protection results in a large difference in financing ability between enterprises. In order to adapt to the improvement of the investor's legal protection level, the enterprise should appropriately increase the directors with rich business experience, professional knowledge and high reputation in social work, so as to make use of their rich human and social capital to provide resources or financing channels for the enterprises to maximize the interests of the investors. At the same time, the government should also create a more relaxed environment for the development of the enterprise, promote the reform of the capital market, improve the bank loan policy and so on, rationally allocate resources and help enterprises to obtain resources.

References
[1] Hahn, J., H. Lee. Financial constraints, debt capacity, and the cross-section of stock returns [J]. The Journal of Finance, 2009. 64(2): p. 891-921.
[2] Pfeffer, J., G.R. Salancik. The external control of organizations: A resource dependence perspective [M]. Harper and Row, 1978.
[3] Shleifer, A., D. Wolfenzon. Investor protection and equity markets [J]. Journal of Financial Economics, 2002, 66(1): 3-27.
[4] Bhattacharya, U., H. Daouk. The world price of insider trading [J]. The Journal of Finance, 2002, 57(1): 75-108.
[5] Brockman, P., D.Y. Chung. Investor protection and firm liquidity [J]. The Journal of Finance, 2003, 58(2): 921-938.
[6] Haselmann, R., P. Wachtel. Risk taking by banks in the transition countries [J]. Comparative Economic Studies, 2007, 49(3): 411-429.
[7] Lehn, K.M., S. Patro, M. Zhao. Determinants of the Size and Composition of US Corporate Boards: 1935-2000 [J]. Financial Management, 2009, 38(4): 747-780.
[8] Hillman, A.J., A.A. Cannella, R.L. Paetzold. The resource dependence role of corporate directors: Strategic adaptation of board composition in response to environmental change [J]. Journal of Management studies, 2000, 37(2): 235-256.