Ownership Structure and Labor Investment Efficiency

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Abstract

This study examines the association between ownership structure and labor investment efficiency. Specifically, this study investigates whether owner-manager firms, where managers own a large percentage of shares in the firm, involve in more efficient labor investment. Based on the management entrenchment hypothesis, managers are more likely to make labor investment decisions to maximize their private benefits rather than creating value for shareholders, resulting in lower efficiency in labor investment. On the other hand, according to the incentive alignment hypothesis, managers tend to make labor investment decisions that will improve future firm performance as their interests are aligned with those of shareholders. In this situation, owner-manager firms are expected to have higher efficiency in labor investment. Our empirical results show that owner-manager firms engage in more efficient labor investment, which contributes to long-term firm value. This study provides empirical evidence that firms' labor investment behavior can vary depending on the characteristics of the ownership structure.

Keywords: Ownership Structure, Management Entrenchment Hypothesis, Incentive Alignment Hypothesis, Labor Investment Efficiency

1. INTRODUCTION

Manpower is an important factor in determining a company's competitiveness, and it determines the production volume and performs various tasks such as research and development (R&D), sales, and internal management activities. Hiring sufficient employees contributes to sales growth and maintains or increases market share [1, 2]. On the other hand, it is important for companies to hire and operate an appropriate level of manpower, since hiring too many employees may increase labor costs and deteriorate the firm's profitability. Even though an appropriate level of labor investment is an important decision-making in a firm, previous studies have shown that managers tend to hire excessive personnel when they maximize their private benefits or optimistically predict the firm's future performance [3, 4]. However, Bertrand and Mullainathan (2003) asserted that firms are likely to manage personnel that is less than an optimal level of employees when they have overly pessimistic predictions of the future performance or would like to reduce the burden of fixed labor costs [5]. As firms may engage in inefficient investment in labor, this study examines the impact of firms' ownership structure on labor investment efficiency. Specifically, we investigate whether owner-manager firms where managers own a large percentage of shares are more likely to involve in efficient labor investment.

A company where ownership and management are separated may have agency problems because of

information asymmetry between managers and shareholders [6, 7]. Previous studies on managerial ownership argue that when managers hold a high level of ownership in a company, they are more likely to make decisions that prioritize their private interests because external investors' checks and monitoring activities are weakened. As a result, agency costs are increased, and this argument refers to the management entrenchment hypothesis [8, 9]. According to the management entrenchment hypothesis, owner-manager firms where managers hold a large percentage of shares in the firm are more likely to make labor investment decisions to maximize their private interests rather than creating value for shareholders. Therefore, we predict that owner-manager firms have lower efficiency in labor investment. On the other hand, other studies document that firms where managers own a large percentage of shares in the firms have lower agency costs because their interests are aligned with those of shareholders. As managerial ownership increases, managers are practically owning the company. Therefore, agency costs are reduced more effectively. This argument refers to the incentive alignment hypothesis [10, 11]. Based on this incentive alignment hypothesis, owner-manager firms are expected to have higher efficiency in labor investment as managers' interests are aligned with shareholders' interests. Thus, owner-manager firms are more likely to make labor investment decisions that will improve future firm performance. Since there is a possibility of positive and negative effects of the corporate ownership structure on labor investment efficiency, it needs to be empirically verified.

Using firms listed in the Korean stock market from 2002 to 2020, this study discovers that owner-manager firms have higher efficiency in labor investment, supporting the incentive alignment hypothesis. This study contributes to prior research on the determinants of labor investment efficiency. This paper provides empirical evidence that owner-manager firms tend to make efficient labor investment decisions that increase long-term firm value as managers have larger ownership in the firms.

2. RESEARCH DESIGN

2.1 Measure of Labor Investment Efficiency

This study measures labor investment efficiency using the method suggested by previous literature [12, 13]. Specifically, firms' net hiring is computed as the change in the number of employees. Labor investment inefficiency is measured using abnormal net hiring. Abnormal net hiring is defined as the difference between the actual net hiring and the expected net hiring based on firms' economic conditions. We estimate expected net hiring using the following model developed by Pinnuck and Lillis (2007) [14]. Abnormal net hiring, which indicates labor investment inefficiency, is measured using the absolute value of residuals obtained from equation (1).

$$
\begin{aligned}
NET\_HIRE_t = {} & \beta_0 + \beta_1 SALES\_GROWTH_{t-1} + \beta_2 SALES\_GROWTH_t + \beta_3 \triangle ROA_{t-1} \\
& + \beta_4 \triangle ROA_t + \beta_5 ROA_t + \beta_6 RET_t + \beta_7 SIZE\_R_t + \beta_8 QUICK_{t-1} \\
& + \beta_9 \triangle QUICK_{t-1} + \beta_{10} \triangle QUICK_t + \beta_{11} LEV_{t-1} + \beta_{12} LOSSBIN1_{t-1} \\
& + \beta_{13} LOSSBIN2_{t-1} + \beta_{14} LOSSBIN3_{t-1} + \beta_{15} LOSSBIN4_{t-1} \\
& + \beta_{16} LOSSBIN5_{t-1} + INDUSTRY\ DUMMIES + YEAR\ DUMMIES + \varepsilon
\end{aligned} \tag{1}
$$

where:
NET_HIRE = The percentage in employees;
SALES_GROWTH = The percentage in sales;
ROA=Net income scaled by total sales;

RETURN= Annual stock returns;

SIZE_R = Log of market value of equity, ranked into percentiles;

QUICK = The ratio of cash and cash equivalent plus short-term investments plus receivables to current liabilities;

LEV = Long-term liabilities scaled by total assets;

LOSSBIN1 = Indicator variable equal to 1 if prior-year ROA is between -0.005 and 0, 0 otherwise;

LOSSBIN2 = Indicator variable equal to 1 if prior-year ROA is between -0.010 and -0.005, 0 otherwise;

LOSSBIN3 = Indicator variable equal to 1 if prior-year ROA is between -0.015 and -0.010, 0 otherwise;

LOSSBIN4 = Indicator variable equal to 1 if prior-year ROA is between -0.020 and -0.015, 0 otherwise;

LOSSBIN5 = Indicator variable equal to 1 if prior-year ROA is between -0.025 and -0.020, 0 otherwise.

2.2 Model

We develop a model to investigate the association between ownership structure and labor investment efficiency.

$$
\begin{aligned}
ALINV_t = {} & \beta_0 + \beta_1 MOWN_t + \beta_2 SIZE_t + \beta_3 LEV_t + \beta_4 MTB_t + \beta_5 QUICK_t \\
& + \beta_6 STDCFO_t + \beta_7 STDSALES_t + \beta_8 TANG_t + \beta_9 LABOR_t \\
& + INDUSTRY\ DUMMIES + YEAR\ DUMMIES + \varepsilon
\end{aligned}
\tag{2}
$$

where:

ALINV = Labor investment inefficiency = residuals obtained from equation (1);

MOWN = Indicator variable equal to 1 if a firm is an owner-manager firm, 0 otherwise;

SIZE = The natural logarithm of total assets;

LEV = Total liabilities scaled by total assets;

MTB = The market value of equity scaled by the book value of equity;

QUICK = The ratio of cash and cash equivalent plus short-term investments plus receivables to current liabilities;

STDCFO = Standard deviation of cash flow from operations over the prior 5 years;

STDSALES = Standard deviation of sales over the prior 5 years;

TANG = Property, plant, and equipment scaled by total assets;

LABOR = Standard deviation of the percentage change in the number of employees over the prior 5 years.

The dependent variable in Equation (2) is labor investment inefficiency. Ownership structure, which is our main explanatory variable, is equal to 1 if a firm is an owner-manager firm, and 0 otherwise. Following prior studies, a firm is an owner-manager firm if the percentage of managerial ownership is higher than the average [15, 16]. If higher managerial ownership increases labor investment efficiency, the coefficient of MOWN is expected to have negative sign. On the other hand, if higher managerial ownership leads to inefficiency in labor investment, the coefficient of MOWN is expected to have positive sign. As control variables, we include firm size(SIZE), leverage(LEV), firm growth(MTB), liquidity(QUICK), volatility in cash flow from operations(STDCFO), volatility in sales(STDSALES), proportion of tangible asset(TANG), and volatility in the percentage change in the number of employees(LABOR) [12, 17].

2.3 Data

We include a sample of non-financial firms listed on the Korean Stock Exchange from 2002 to 2020. We obtained financial data from the KIS-Value database from the Korea Investor Services. Managerial ownership data were collected from the business reports filed by Korean financial supervisory authorities. To eliminate the effect of any outlier bias, the top and bottom 1% of all the continuous variables are winsorized. Our final sample consists of 9,604 firm-year observations.

3. EMPIRICAL RESULTS

Table 1 shows the descriptive statistics of the variables included in this study. The mean value for labor investment inefficiency(ALINV), the dependent variable, is 0.086. The mean value of our main explanatory variable, MOWN, is 0.38, indicating that 38% of samples are owner-manager firms. The average leverage ratio is 0.423, and mean value of QUICK is 1.090, indicating that samples do not have significant liquidity problem on average.

Table1. Descriptive Statistics

Variable	Mean	Std.	Q1	Median	Q3
ALINV	0.086	0.103	0.024	0.052	0.102
MOWN	0.380	0.485	0.000	0.000	1.000
SIZE	19.098	1.730	17.876	18.805	20.102
LEV	0.423	0.203	0.263	0.428	0.571
MTB	1.259	1.250	0.537	0.856	1.466
QUICK	1.090	1.406	0.430	0.732	1.202
STDCFO	0.051	0.040	0.025	0.040	0.064
STDSALES	0.165	0.182	0.057	0.108	0.199
TANG	0.173	0.137	0.067	0.147	0.250
LABOR	1.703	1.507	0.685	1.296	2.253

ALINV = Labor investment inefficiency = residuals obtained from equation (1);
MOWN = Indicator variable equal to 1 if a firm is an owner-manager firm, 0 otherwise;
SIZE = The natural logarithm of total assets;
LEV = Total liabilities scaled by total assets;
MTB = The market value of equity scaled by the book value of equity;
QUICK = The ratio of cash and cash equivalent plus short-term investments plus receivables to current liabilities;
STDCFO = Standard deviation of cash flow from operations over the prior 5 years;
STDSALES = Standard deviation of sales over the prior 5 years;
TANG = Property, plant, and equipment scaled by total assets;
LABOR = Standard deviation of the percentage change in the number of employees over the prior 5 years.

Table 2 presents the correlations among the variables used in this study. Ownership structure variable (MOWN) is negatively correlated with labor investment inefficiency (ALINV), even though the correlation is not significant. Also, ALINV is positively correlated with market-to-book value of equity (MTB), liquidity (QUICK), volatility in cash flow from operations (STDCFO), and volatility in sales (STDSALES). Further,

firm size (SIZE), leverage (LEV), the proportion of tangible assets (TANG), volatility in labor force (LABOR) are significantly and negatively correlated with ALINV. Because univariate tests are likely to be affected by other correlated omitted variables that can influence ALINV, we conduct regression analyses including control variables.

Table 2. Correlation Matrix

	ALINV	MOWN	SIZE	LEV	MTB
ALINV	1.000				
MOWN	-0.003	1.000			
SIZE	-0.055***	-0.131***	1.000		
LEV	-0.066***	-0.226***	-0.085***	1.000	
MTB	0.065***	-0.118***	0.385***	0.095***	1.000
QUICK	0.075***	0.113***	-0.020**	-0.495***	-0.011
STDCFO	0.143***	-0.078***	-0.216***	0.167***	0.124***
STDSALES	0.185***	-0.070***	-0.080***	0.117***	0.091***
TANG	-0.161***	-0.159***	0.057***	0.282***	-0.042***
LABOR	-0.060***	-0.026***	-0.304***	0.083***	0.091***

	QUICK	STDCFO	STDSALES	TANG	LABOR
QUICK	1.000				
STDCFO	-0.038***	1.000			
STDSALES	0.007	0.462***	1.000		
TANG	-0.218***	-0.044***	-0.087***	1.000	
LABOR	-0.067***	0.089***	0.038***	0.128***	1.000

See Table 1 for variable definitions. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.

Table 3. Ownership structure and labor investment efficiency

	Coefficient	t-value
Intercept	0.242	14.26***
MOWN	-0.007	-3.07***
SIZE	-0.007	-9.58***
LEV	-0.044	-6.87***
MTB	0.008	8.30***
QUICK	0.001	1.57
STDCFO	0.138	4.40***
STDSALES	0.072	11.02***
TANG	-0.046	-5.25***
LABOR	-0.007	-8.30***
IND	Included	
YR	Included	
Adj R_2	0.10	
N	9,604	

See Table 1 for variable definitions. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.

Table 3 presents the results of regression analysis, which examines whether owner-manager firms make more efficient investment in labor. The results of regression analysis indicate that the coefficient of MOWN is negative and significant at the 1% level. This shows that firms where managers own a large percentage of shares in the firm make more efficient labor investment. The results suggest that managers in the owner-manager firms make labor investment that increases future firm performance rather than achieving private benefits for themselves as interests of managers are aligned with those of shareholders. This supports incentive alignment hypothesis.

Table 4 shows the results of regression analysis, where the entire sample is divided into over-investment and under-investment in labor. The results in Table 4 show that the coefficient of MOWN is significantly negative at the 5% level for over-investment in labor samples. However, the coefficient of MOWN is not significant for under-investment samples. This indicates that owner-manager firms reduce over-investment in labor whereas they do not decrease under-investment in labor.

**Table 4. Managerial ownership and labor investment efficiency
: over-investment vs. under-investment**

Variables	Over-investment		Under-investment	
	Coefficient	t-value	Coefficient	t-value
Intercept	0.226	8.27***	0.260	12.59***
MOWN	-0.010	-2.87***	-0.004	-1.36
SIZE	-0.007	-5.49***	-0.008	-8.29***
LEV	-0.041	-4.01***	-0.050	-6.48***
MTB	0.011	6.54***	0.006	5.09***
QUICK	0.003	2.34**	-0.001	-0.79
STDCFO	0.091	1.80*	0.176	4.64***
STDSALES	0.043	3.99***	0.093	12.06***
TANG	-0.051	-3.64***	-0.038	-3.49***
LABOR	-0.002	-1.77*	-0.012	-11.39***
IND	Included		Included	
YR	Included		Included	
Adj R_2	0.07		0.15	
N	4,636		4,968	

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4. CONCLUSION

This study investigates the association between ownership structure and labor investment efficiency. Specifically, this study examines whether owner-manager firms where managers hold a large percentage of shares in the firm engage in more efficient labor investment. Our empirical results show that owner-manager firms are more likely to involve in efficient investment in labor. The results imply that managers make labor investment decisions that will improve future firm performance rather than maximizing private interests as their interests are aligned with those of shareholders. This supports incentive alignment hypothesis. This paper provides additional evidence that corporate labor investment decisions vary depending on the characteristics of the ownership structure. The findings in this study are expected to contribute to establishing policies related to corporate labor investment in academia and capital markets.

REFERENCES

[1] J. Pfeffer, "Competitive Advantage through People: Unleashing the Power of the Work Force," Harvard Business School Press, 1996.

[2] D. Hamermesh, "Labor Demand, Princeton University Press," 1993.

[3] U. Malmendier, and G. Tate, "CEO Overconfidence and Corporate Investment," *Journal of Finance*, Vol. 60, No. 6, pp. 2661-2700, 2005.

[4] H. Cronqvist, F. Heyman, M. Nilsson, H. Svaleryd, and J. Vlachos, "Do Entrenched Managers Pay their Workers More?," *Journal of Finance*, Vol. 64, No. 1, pp. 309-339, 2009.

[5] M. Bertrand, and S. Mullainathan, "Enjoying the Quiet Life? Corporate Governance and Managerial Preferences," *Journal of Political Economy*, Vol. 111, pp. 1043-1075, 2003.

[6] M. C. Jensen, and W. H. Meckling, "Theory of the Firm : Managerial Behavior, Agency Costs and Ownership Structure," *Journal of Financial Economics*, Vol. 3, pp. 305-360, 1976.

[7] R. LaFond, and S. Roychowdhury, "Managerial Ownership and Accounting Conservatism," *Journal of Accounting Research*, Vol. 46, No. 1, pp. 101-135, 2008.

[8] R. Morck, A. Shleifer, and R. Vishny, "Management Ownership and Market Valuation: an Empirical Analysis," *Journal of Financial Economics*, Vol. 20, pp. 293-315, 1988.

[9] H. M. Chun, "Managerial Ownership and Implied Cost of Equity Capital – Evidence from Korea," *Journal of Taxation and Accounting*, Vol. 15, No. 1, pp. 9-29, 2014.

[10] D. Warfield, J. Wild, and L. Wild, "Managerial Ownership, Accounting Choices, and Informativeness of Earnings," *Journal of Accounting and Economics*, Vol. 20, pp. 61-91, 1995.

[11] H. M. Chun, and S. J. Park, "Managerial Ownership and Cost of Debt Capital – Evidence from Korean Listed Firms," *Korean Corporation Management Review*, Vol. 24, No.2, pp. 131-151, 2017.

[12] B. Jung, W. J. Lee, and D. P. Weber, "Financial Reporting Quality and Labor Investment Efficiency," *Contemporary Accounting Research*, Vol.31, No.4, pp.1047-1076, 2013.

[13] W. J. Lee and K. Yu, "Personnel is Policy: Labor Investment Efficiency and Firm Value," *Korean Accounting Review*, Vol. 42, No.2, pp. 125-168, 2017.

[14] M. Pinnuck, and A. Lillis, "Profits versus Losses: Does Reporting an Accounting Loss Act as a Heuristic Trigger to Exercise the Abandonment Option and Divest Employees?," *The Accounting Review*, Vol. 82, pp.1031-1053, 2007.

[15] K. T. Lee, S. C. Lee, and A. Y. Park, "Effect of Ownership and Governance Structure on Executives' Stock Options," *Korean Journal of Financial Studies*, Vol. 34, pp. 37-70, 2005.

[16] J. E. Cho, "Accruals Quality, Ownership Structure and the Value of Cash Holdings," *Journal of the Korean Data Analysis Society*, Vol. 21, No. 2, pp. 973-990, 2019.

[17] S. A. Kang, and S. M. Cho, "The Effect of Accounting Quality and Competition Intensity on Labor Investment Efficiency," *Korea Business Review*, Vol. 21, No. 1, pp. 237-259, 2017.