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THE EFFECT OF FOREIGN SHAREHOLDER OWNERSHIP ON LABOR INVESTMENT EFFICIENCY: EVIDENCE FROM SOUTH KOREA

Abstract

This study investigates whether higher foreign shareholder equity improves labor investment efficiency in South Korean publicly listed firms. Labor investment, like capital investment, plays a crucial role in shaping corporate performance and value. It involves continuous cash outflows and poses challenges during restructuring, such as downsizing. Foreign shareholders are known to take on a monitoring role in Korean firms, potentially leading to more efficient labor investment decisions.

To assess the impact of foreign shareholder involvement on labor investment efficiency, regression analysis was conducted using data from 2,699 firm-year observations from firms listed on the Korean stock exchange during the pre-pandemic period (2016–2019). Labor investment inefficiency was measured as the absolute difference between actual and expected labor investment levels, considering both over- and under-investment as inefficiencies.

The analysis revealed a significant negative relationship between foreign ownership and labor investment inefficiency. Specifically, a regression coefficient of -2.220 (p -value: 0.027) indicates that higher foreign shareholder equity is associated with lower labor investment inefficiency. Further analysis, separating the sample into over-investment and under-investment groups, found that the coefficient for foreign ownership in the under-investment group was -1.920 (p -value: 0.055), significant at the 10% level. These findings suggest that foreign shareholders, through their monitoring role, help reduce information asymmetry, decreasing inefficiencies in labor investment decisions.

Keywords

foreign ownership, actual labor investment, expected labor investment, labor investment efficiency, Korea

JEL Classification

J21, M40, M41, M42

INTRODUCTION

Investment decisions are crucial in shaping a firm's long-term value, and labor investment plays a significant role in determining a firm's competitiveness. Labor is integral to a firm's operations, from product research and development to sales, management, and production scale. Strategic recruitment and effective management of human resources can drive growth and expand market share (Hamermesh, 1993; Pfeffer, 1996). However, over-hiring or under-hiring can increase costs and reduce profitability, making it essential for managers to carefully evaluate labor investments to ensure alignment with the firm's optimal needs.

Labor investment is unique in its challenges due to its irreversible nature, which results in continuous cash outflows that persist even during economic slowdowns. Consequently, companies must be cautious in their labor investment decisions to ensure that these outflows are justified by long-term returns. Improving labor investment efficiency is critical to maximizing these returns.



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The Efficient Market Hypothesis posits that managers make investment decisions that balance marginal benefits and costs. However, in reality, information asymmetry between internal and external stakeholders and principal-agent problems often lead to inefficiencies. For instance, managers may hire excessive staff to fulfill personal goals or overestimate future growth potential, resulting in overinvestment. Conversely, pessimistic managers may under-invest, leading to an insufficient workforce. Furthermore, labor-related risks, such as compliance with labor laws and union negotiations, may discourage managers from making adequate labor investments, resulting in underinvestment (Bertrand & Mullainathan, 2003). Thus, due to principal-agent issues and information asymmetry, actual labor investments often deviate from optimal levels, creating inefficiencies.

Since the liberalization of South Korea's capital market in 1992, foreign shareholder ownership has increased, raising concerns about the potential prioritization of short-term returns over long-term growth. Some domestic investors fear that foreign shareholders may focus on dividend payouts at the expense of capital investments, including labor. However, prior studies suggest that foreign shareholders play a positive role in improving corporate governance and financial performance in the Korean context (Kim et al., 2008; Lee et al., 2008; Kim et al., 2011). By holding significant equity stakes, foreign shareholders are better positioned to monitor management, potentially improving decision-making processes and leading to more efficient labor investment.

1. LITERATURE REVIEW AND HYPOTHESIS

Investors in capital markets can be categorized in various ways. Shareholders are individuals or entities that own stocks in a company, while creditors hold bonds issued by the firm. Investors can also be distinguished by their identity, such as individual versus institutional investors (e.g., securities firms), or by their nationality, either domestic or foreign. Additionally, investors are classified based on their investment horizon, which can be short-term or long-term. In general, institutional investors, foreign investors, and long-term investors tend to hold larger equity stakes, achieve higher returns, and have better access to information compared to individual investors.

Foreign investors have a positive impact on South Korea's stock market by reducing information asymmetry and providing oversight to prevent personal interests from influencing management decisions (Kim et al., 2010). Their presence is linked to improved corporate governance, enhanced management oversight, and better credit ratings (Lee et al., 2008; Kim et al., 2008). They also contribute to higher-quality financial reporting, often encouraging the use of reputable auditors (Roh et al., 2003), and help reduce earnings manipulation by promoting a long-term, stable investment strategy (Kim et al., 2011).

Labor investments are difficult to adjust and can lead to ongoing costs. Over-investment may occur when managers seek to enhance their prestige, resulting in inefficient staffing (Malmendier & Tate, 2005). Furthermore, to maintain employee loyalty, managers may avoid layoffs or offer higher wages, especially in firms with strong labor unions (Bertrand & Mullainathan, 2003). Conversely, managers may underinvest in labor to mitigate the risks associated with hiring and firing decisions (Bertrand & Mullainathan, 2003).

Information asymmetry between stakeholders can lead to suboptimal decisions, including inefficient labor investments. Firms with greater asymmetry may face higher capital costs and difficulties funding profitable projects (Myers & Majluf, 1984). Previous research suggests that significant information asymmetry leads to inefficiencies in labor investment (Jung et al., 2014; Ha & Feng, 2018).

Higher foreign shareholder ownership reduces information asymmetry, increasing transparency and improving financial reporting (Ahn et al., 2005). Firms with greater foreign ownership are more likely to disclose information regularly, promoting a more transparent corporate environment (Sohn & Oh, 2006).

Based on the findings of previous studies, it can be argued that higher foreign ownership improves

monitoring and oversight, leading to more effective scrutiny of labor investment decisions. This, in turn, should reduce inefficiencies in labor investment. Therefore, this study hypothesizes a negative relationship between foreign ownership levels and labor investment inefficiency, with greater foreign shareholder ownership leading to reduced inefficiencies in labor investment.

2. METHODS

This study assessed labor investment inefficiency using the approach proposed by Pinnuck and Lillis (2007). According to their method, a higher rate of employment growth indicates increased labor investment by a company. Additionally, inefficiency in labor investment is considered to rise as the gap between the actual employment growth rate and the optimal employment growth rate widens, with the latter adjusted for the company's economic conditions. The optimal employment growth rate was estimated using the model developed by Pinnuck and Lillis (2007).

$$\begin{aligned} HIRE_t = & \beta_0 + \beta_1 SALES_{GROWTH}_{t-1} \\ & + \beta_2 SALES_{GROWTH}_t + \beta_3 \Delta ROA_{t-1} \\ & + \beta_4 \Delta ROA_t + \beta_5 ROA_t + \beta_6 RET_t \\ & + \sum IND + \sum YEAR + \varepsilon_t. \end{aligned} \quad (1)$$

In Model (1), the dependent variable, HIRE, represents the actual employment growth rate, while the independent variables include factors that influence employment growth, such as sales growth, profitability, and annual stock returns. The expected employment growth rate for each firm-year is calculated using the estimated regression coefficients from Equation (1). To assess labor investment inefficiency, the residuals representing the differences between the actual and expected employment growth rates are analyzed. The absolute values of these residuals are used in the analysis. The resulting measure of labor investment inefficiency is labeled ABSLII, where lower values indicate reduced inefficiency.

This study aims to examine the effect of foreign ownership on labor investment efficiency. The key variable in Equation (2) is FOREIGN, which represents the proportion of foreign ownership. If

higher foreign ownership leads to more efficient labor investment, the coefficient β_1 for FOREIGN is expected to have a significant negative value. Conversely, if foreign ownership is associated with less efficient labor investment, β_1 would show a significant positive value.

Control variables include firm size (SIZE), leverage (LEV), growth potential (MB), return on assets (ROA), the ratio of tangible assets (TANGIB), and the presence of losses (LOSS), based on prior research (Biddle & Hilary, 2006; Jung et al., 2014). Previous studies suggest that larger firms tend to be monitored by more stakeholders, and firms with higher debt ratios face greater scrutiny from creditors. Therefore, larger firms and those with higher debt dependence are expected to make more efficient labor investments. As a result, the SIZE and LEV variables are anticipated to show a negative relationship with the dependent variable, labor investment inefficiency. On the other hand, firms with high growth potential or those facing losses may find it challenging to achieve optimal labor investments due to external volatility. Consequently, the MB and LOSS variables are expected to exhibit a positive relationship with labor investment inefficiency (ABS_LII). Additionally, firms with stronger profitability (ROA) and a higher proportion of tangible assets (TANGIB), which typically exhibit lower volatility, are expected to have greater capacity for optimal labor investment, leading to a negative relationship with labor investment inefficiency.

It is also assumed that the monitoring role of foreign investors takes time to become effective. Therefore, the independent variables are lagged by one year (t-1), while the dependent variable is measured for the following year.

$$\begin{aligned} ABS_LII_t = & \beta_0 + \beta_1 FOREIGN_{t-1} \\ & + \beta_2 SIZE_{t-1} + \beta_3 LEV_{t-1} + \beta_4 MB_{t-1} \\ & + \beta_5 ROA_{t-1} + \beta_6 TANGIB_{t-1} + \beta_7 LOSS_{t-1} \\ & + \sum IND + \sum YEAR + \varepsilon_{t-1}. \end{aligned} \quad (2)$$

3. SAMPLE SELECTION

This study examines firms listed on the Korea Securities Market, focusing on the period from 2016 to 2019. The global COVID-19 pandemic,

which began in the latter half of 2020 and continued until the end of 2022, had a significant impact on labor investment strategies. In response to the pandemic, many Korean companies adjusted their employment practices. Specifically, most firms transitioned to remote work in late 2020 to mitigate the spread of the virus. Additionally, companies that faced substantial revenue declines during the prolonged pandemic downsized operations, laid off staff and increasingly adopted automation and unmanned systems. Given these substantial shifts in labor investment strategies during the COVID-19 period (2020–2022), this study focuses on the pre-pandemic years to avoid the confounding effects of these exceptional circumstances.

The sample selection is based on the following criteria: (1) firms with a fiscal year ending in December, (2) non-financial firms, (3) firms not experiencing capital impairment, and (4) firms for which both financial and labor investment data are available for analysis. To control for potential biases arising from differing fiscal year-ends, the sample is restricted to firms with a December fiscal year-end. Financial firms are excluded due to their unique financial statement structures and account classifications, which differ from those of non-financial industries. Additionally, firms showing signs of capital impairment, indicating an inability to continue normal operations, are excluded from the sample. Financial data are obtained from the Kis Value database provided by the Korea Credit Rating Agency, while foreign ownership data are sourced from TS2000. To mitigate the impact of outliers, the data are winsorized at the 1% level. The final sample includes 2,699 firm-year observations.

4. RESULTS

Table 1 presents the descriptive statistics for the key variables used in the analysis. The primary variable of interest, foreign ownership (FOREIGN), has an average value of 0.115, indicating that, on average, foreign shareholders own 11.5% of the equity in the firms under study. The minimum, median, and maximum values for foreign ownership are 0, 0.058, and 0.897, respectively, suggesting a right-skewed distribution.

The dependent variable, labor investment inefficiency (ABSLII), is calculated as the absolute value of the residuals from the model proposed by Pinnuck and Lillis (2007). The mean (and median) value of ABSLII is 0.093 (0.053), reflecting a significant disparity between the actual and expected labor investment levels across the sample firms.

As for the control variables, leverage (LEV) has a mean of 0.42, implying that, on average, the firms in the sample are 42% debt-financed. The LOSS variable, which indicates whether a firm is operating at a loss, has an average value of 0.212, meaning that 21.2% of the firms in the sample are experiencing losses. Lastly, the growth potential variable (MB) has an average value of 1.341, suggesting that, on average, the market value of the sample firms exceeds their book value by 34%.

Table 1. Descriptive statistics (N = 2,699)

Variables	Mean	Std. Dev.	Min	Median	Max
ABSLII	0.093	0.123	0	0.053	0.752
FOREIGN	0.115	0.14	0	0.058	0.897
SIZE	27.108	1.495	24.44	26.798	31.159
LEV	0.42	0.201	0.036	0.421	0.928
MB	1.341	1.234	0.217	0.969	7.472
ROA	0.024	0.068	-0.292	0.027	0.234
TANGIB	0.179	0.13	0	0.157	0.915
LOSS	0.212	0.409	0	0	1

Notes: (1) All continuous variables are winsorized at the 1% level. (2) Variable definitions are presented in Appendix A.

Table 2 presents the Pearson correlation coefficients for the key variables in the analysis. The proportion of foreign ownership (FOREIGN) is significantly and negatively correlated with labor investment inefficiency (ABSLII) at the 1% level, indicating that firms with higher foreign ownership tend to have more efficient labor investments. Similarly, firm size (SIZE) and profitability (ROA) also show significant negative correlations with ABSLII at the 1% level, suggesting that larger and more profitable firms generally make more efficient labor investment decisions.

Additionally, foreign ownership (FOREIGN) is positively and significantly correlated with firm size (SIZE), growth potential (MB), and profitability (ROA) at the 1% level. This implies that in the South Korean market, foreign investors are more likely to increase their stakes in larger, more profitable, and higher-growth firms. Conversely, le-

Table 2. Pearson's correlation (N = 2,699)

Variable	1	2	3	4	5	6	7	8
1. ABSLII	1	-0.076***	-0.078***	-0.009	0.031	-0.103***	-0.045	0.084
2. FOREIGN		1	0.522***	-0.174***	0.216***	0.264***	0.028	-0.151***
3. SIZE			1	0.151***	0.053***	0.110***	0.077***	-0.059***
LEV				1	0.031	-0.395***	0.260***	0.353***
MB					1	0.145***	-0.001	-0.060***
ROA						1	-0.037*	-0.673***
7. TANGIB							1	0.021
LOSS								1

Notes: (1) ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively. (2) Variable definitions are presented in Appendix A.

verage (LEV) and the presence of losses (LOSS) show negative correlations with foreign ownership (FOREIGN) at the 1% level, suggesting that foreign investors are less inclined to invest in firms with high debt or those experiencing losses.

To assess potential multicollinearity among the explanatory variables, a Variance Inflation Factor (VIF) test was conducted. The VIF results show that all variables have values below 3, indicating that multicollinearity is not a significant concern. Since correlation analysis provides only a basic understanding of the relationships between variables, regression analysis will be used as the primary method for hypothesis testing in this study.

Table 3 presents the results of the regression analysis examining the effect of foreign ownership on labor investment efficiency. If higher foreign ownership reduces labor investment inefficiency, the coefficient for foreign ownership (FOREIGN) would be significantly negative with respect to the dependent variable, labor investment inefficiency (ABSLII). Conversely, if foreign investors contribute to either excessive or insufficient labor investment, the FOREIGN coefficient would show a significantly positive value.

The regression results show that the coefficient for foreign ownership (FOREIGN) is -2.220 (p-value: 0.027), which is statistically significant at the 5% level. This suggests that firms with higher foreign ownership have a smaller gap between their actual and expected labor investment levels, supporting the hypothesis that higher foreign ownership is negatively associated with labor investment inefficiency.

Among the control variables, the coefficient for leverage (LEV) is -2.620, significant at the 1% level, indicating that creditors, such as banks, also play

a role in reducing inefficient labor investments. In contrast, the coefficient for the growth potential variable (MB) is 3.030, significant at the 1% level, suggesting that firms with high growth potential face greater uncertainty, leading to larger deviations from optimal labor investment levels.

Table 3. Foreign investors and labor investment inefficiency

Variable	Dependent variable ABS(Labor Investment Inefficiency)	
	Coef.	p-value
Intercept	3.480	<0.01
FOREIGN	-2.220	0.027
SIZE	-1.310	0.191
LEV	-2.620	<0.01
MB	3.030	<0.01
ROA	-3.240	<0.01
TANGIB	-1.520	0.128
LOSS	1.310	0.190
Industry fixed effect		YES
Year fixed effect		YES
Adj. R ²		0.037
N		2,699

Note: Variable definitions are presented in Appendix A.

This study assessed labor investment inefficiency by comparing the actual level of labor investment with the expected level. When actual labor investment exceeds the expected level, it indicates overinvestment, while a shortfall in labor investment relative to the expected level signals underinvestment.

Table 4 divides the sample into two groups: those with labor overinvestment and those with labor underinvestment. The analysis examines the relationship between foreign ownership (FOREIGN) and labor investment inefficiency (ABSLII) within each group. The results show that, in the underinvestment group, the regression coefficient for

FOREIGN is -1.920 (p -value: 0.055), which is statistically significant at the 10% level. This suggests that the monitoring role of foreign investors is particularly effective when labor investment falls below the optimal level.

The findings in Table 4 support the hypothesis of this study, highlighting the critical role that foreign investors play in improving labor investment efficiency.

Table 4. Foreign investors and labor investment inefficiency (focusing on over and underinvestment)

Variable	Dependent variable = ABS(Labor Investment Inefficiency)			
	Over-invested Labor Sample		Under-labor Investment Sample	
	Coef.	p-value	Coef.	p-value
Intercept	3.01	<0.01	2.130	0.034
FOREIGN	-1.040	0.300	-1.920	0.055
SIZE	-1.490	0.136	-0.550	0.579
LEV	-2.540	0.011	-1.100	0.274
MB	2.300	0.021	2.140	0.033
ROA	-1.900	0.058	-2.840	0.005
TANGIB	-1.280	0.200	-1.000	0.317
LOSS	-0.090	0.925	1.970	0.049
Industry fixed effect	YES		YES	
Year fixed effect	YES		YES	
Adj. R ²	0.029		0.050	
N	1,258		1,441	

Note: Variable definitions are presented in Appendix A.

5. DISCUSSION

This study analyzed the impact of foreign shareholders on labor investment efficiency in Korean companies. Foreign investors in the Korean capital market tend to have a valuation advantage over domestic investors (Ko et al., 2007; Kang et al., 2010), and while foreign ownership concentration decreases as corporate governance becomes more centralized (Kim et al., 2010), foreign investors enhance governance independence and management oversight (Jeon et al., 2010; Sachs & Warner, 1995). Improved internal control, better accounting information, and reduced information asymmetry help prevent excessive or insufficient investments, ultimately boosting efficiency (Biddle & Hilary, 2006; Biddle et al., 2009).

While most research has focused on capital investment efficiency, labor investment, a key contributor

to economic value, also plays a critical role in a company's performance. Like capital investment, labor investment involves ongoing costs and challenges in restructuring, making it vital to assess labor investment efficiency for long-term competitiveness and profitability.

The analysis in Table 3 shows that an increase in foreign ownership narrows the gap between actual and expected labor investment, indicating that foreign investors enhance labor investment efficiency through effective monitoring. Additionally, Table 4 reveals that this relationship is significant in the underinvestment group, suggesting that foreign shareholders' oversight can help improve labor investment when it falls short of expectations.

This study shifts the focus to labor investment, an often overlooked area. Research has consistently shown that labor accounts for a substantial portion of a company's value, highlighting its importance as a production factor (Hamermesh, 1993; Bernanke, 2004). While prior studies have examined managerial impact on capital investment efficiency, few have explored labor investment efficiency, particularly in terms of financial reporting quality. Though high-quality earnings improve capital investment efficiency, it remains unclear if the same applies to labor investment.

Labor investments, with typically lower adjustment costs than capital investments, are generally more flexible (Dixit & Pindyck, 1994). Although labor costs can vary and are funded from current revenues, Jung et al. (2014) found that earnings quality enhances labor investment efficiency. Yet, it is still uncertain whether financial frictions in funding labor investments are less significant than those for capital investments.

This study emphasizes the need for further research into labor investment efficiency. While limited research has been done in this area, particularly concerning the quality of financial reporting and its influence on labor investment (Jung et al., 2014), the findings underscore the crucial role of foreign shareholders in improving labor investment efficiency. This highlights the importance of foreign investors not only in capital markets but also in promoting efficient labor investment decisions within Korean firms.

CONCLUSION

This study examines the relationship between foreign shareholder equity and labor investment efficiency in South Korean firms. Labor investment is vital for firms as it impacts production capacity and service quality, which are crucial for sustained growth. Firms must make strategic labor investments, as these decisions are difficult to reverse and lead to ongoing costs.

From a neo-classical perspective, managers aim to balance investment until marginal benefits equal costs. However, under agency theory, personal interests may lead to inefficiencies, such as underinvestment or overinvestment. This study investigates whether foreign shareholders can improve labor investment efficiency through their monitoring role.

The analysis shows that firms with higher foreign shareholder equity exhibit lower labor investment inefficiency, suggesting that foreign shareholders help reduce information asymmetry and mitigate inefficiencies caused by managerial biases. The study also finds that foreign ownership has a significant negative impact on labor investment inefficiency, particularly in firms with underinvestment, indicating that foreign shareholders play a critical role in correcting such inefficiencies.

This study contributes by demonstrating the positive impact of foreign shareholders on labor investment efficiency, an area often overlooked in capital investment studies. By focusing on this, it fills an important gap in the literature and provides valuable insights for both academics and practitioners.

AUTHOR CONTRIBUTIONS

Conceptualization: Haeyoung Ryu.

Data curation: Soo-Joon Chae.

Formal analysis: Soo-Joon Chae.

Investigation: Soo-Joon Chae.

Methodology: Soo-Joon Chae.

Project administration: Haeyoung Ryu.

Resources: Soo-Joon Chae.

Software: Soo-Joon Chae.

Supervision: Haeyoung Ryu.

Validation: Haeyoung Ryu.

Visualization: Soo-Joon Chae.

Writing – original draft: Haeyoung Ryu.

Writing – review & editing: Soo-Joon Chae.

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APPENDIX A

Table A1. Variable definitions

Variable	Definition
Dependent Variables	
ABSLII	Inefficient investment in labor, The absolute values of the residuals from equation (1)
Independent Variables	
FOREIGN	Firm shares held by foreign investors
SIZE	The natural logarithm of total assets;
LEV	Total liabilities scaled by total assets
MB	The ratio of the market value of equity to the book value of equity
ROA	Net income scaled by total assets
TANGIB	The ratio of PPE to total assets
LOSS	An indicator variable equal to 1 if net income is less than zero, 0 otherwise