



ELIT

Economic Laboratory Transition
Research Podgorica

Montenegrin Journal of Economics

For citation:

Al Mwalla, M., Al- Khouri, R., Al-Gharaibeh, S.M, AL-Mardini, B. (2024),
“Cash Flow Sensitivity and Managerial Optimism: Evidence from the UK”,
Montenegrin Journal of Economics, Vol. 20, No. 4, pp. 149-159.

Cash Flow Sensitivity and Managerial Optimism: Evidence from the UK

MONA AL MWALLA¹, RITAB AL-KHOURI², SUJOOD M AL-GHARAIBEH³,
and BARA AL-MARDINI⁴

¹ Professor of Banking and Finance Sciences, Yarmouk University, Jordan, e-mail: malmwalla@yu.edu.jo

² Professor of Banking and Finance, Al-Ahliyya Amman University, Jordan, e-mail: r.alkhouri@ammanu.edu.jo

³ Master degree in Banking and Finance Sciences at Yarmouk University, Jordan, e-mail: sujoodg46@gmail.com

⁴ Master degree in Banking and Finance Sciences at Yarmouk University, Jordan, e-mail: drmardino@gmail.com

ARTICLE INFO

Received May 22, 2023

Revised from June 21, 2023

Accepted July 21, 2023

Available online October 15, 2024

JEL classification: D80; G31; G32

DOI: 10.14254/1800-5845/2024.20-4.13

Keywords:

Investment decisions,
financially constrained firms,
Managerial optimism,
investment-cash flow sensitivity,
UK firms

ABSTRACT

The investment decisions of financially constrained firms are subject to various factors, one of which is the level of managerial optimism, a psychological construct that influences corporate decision-making and can significantly affect investment choices. This study aims to investigate the impact of managerial optimism on the investment decisions of financially constrained firms. In order to determine whether a company is financially constrained, a measure of optimism was employed, derived from the board of directors inside transactions and the Whited and Wu index. Data from UK-listed firms were analyzed to validate three discussion hypotheses: (1) optimism affects investment decisions; (2) optimism increases investment sensitivity to cash flow; and (3) this sensitivity is more prevalent in financially constrained firms. The results of this study demonstrate that the interaction between cash flow and managerial optimism significantly affects investment decisions and has a more substantial influence on financially constrained firms.

INTRODUCTION

In the business domain, managerial optimism holds significant potential as a critical factor contributing to a company's success. For financially constrained firms, managerial optimism can have a particularly strong impact on investment decisions. However, previous studies have shown that managers of financially constrained firms tend to be more optimistic than managers of firms with ample resources, resulting in more risk-taking behavior. This optimism can lead to higher investments as managers believe that their firms will reap the rewards of successful investments. Thus, optimism can help companies achieve success by increasing their chances of finding and implementing different strategies to expand their market share. Recent studies have been focusing on why this optimism seems to be a popular

strategy among financially constrained firms. Managers of such companies have an incentive to believe their company will survive given the cash constraints because it enables them to increase earnings and remain competitive despite financial limitations.

Managerial optimism holds significant potential as a critical factor contributing to a company's success. The impact of such optimism on investment decisions can be even more pronounced for financially constrained firms. Nonetheless, empirical research indicates that managers of financially constrained firms tend to exhibit greater levels of optimism than those managing firms with ample resources, leading to an increased propensity towards risk-taking behavior. This optimism can lead to higher propensity towards risk-taking behavior, resulting in greater investments, as managers anticipate substantial benefits from successful investments. Hence, optimism can effectively enhance a company's prospects of success by facilitating the discovery and implementation of diverse strategies to augment its market share. The prevalence of optimism as a strategy among financially constrained firms has been a topic of interest. Managers of such companies harbor the incentive to believe that their enterprise will endure despite cash constraints, thereby facilitating the realization of enhanced earnings and the maintenance of competitiveness despite financial limitations.

Recent studies have shown that managerial optimism strongly influences corporate financing and investment, and decisions about a firm's financing and investment plans can be significantly impacted by managerial optimism. Al-gharaibeh and Almwalla (2022), Elgebeily et al., (2021), and Ben Mohamed et al., (2014) contend that optimistic managers view outside funding as excessively costly and that managerial optimism influences the level of investment undertaken by the company, particularly financially constrained firms. This, according to Malmendier et al. (2011) and Heaton (2002), can result in a preference for the issuing of debt over equity. Optimistic managers believe that their company's performance will improve in the future. Since optimistic management believes the market undervalues their company, they will not be keen to issue more stock and will reject investments with a positive net present value (Lin et al., 2008).

On the other hand, it has been shown that managers with higher levels of optimism are more sensitive to cash flows and may ignore projects with positive net present values if they lack the necessary internal resources (Glaser et al., 2008; Heaton, 2002; Malmendier & Tate, 2005). According to Kaplan & Zingales (1997), the relationship between investment and cash flow is referred to as the "investment-cash flow sensitivity." When cash flows are low, investment cash flow sensitivity leads to a firm's underinvestment condition; when cash flows are large, overinvestment behavior prevails. Hence if a firm's investment is more sensitive to its cash flow, then this suggests that the firm has higher financing constraints (Maditinos et al., 2019). The phenomenon of investment cash flow sensitivity has been the subject of extensive research and is explicable through three theories. According to standard finance theory, agency problems and asymmetric information lead to investment cash flow sensitivity. Behavioral corporate finance suggests that managerial optimism and overconfidence can also contribute to investment cash flow sensitivity. Finally, the pecking order theory suggests that investment cash flow sensitivity can be attributed to a firm's preference for internal financing over external financing.

Managerial optimism refers to the behavioral concept arising from psychological beliefs wherein managers who have a positive outlook on the future tend to construct scenarios that anticipate exceptional future performance. Nofsinger (2005) asserts that optimism and corporate finance are related and that managers' decision-making is influenced by optimism. Optimists think that the projects they are in charge of are successful and that future returns will exceed current returns (Habib & Huang, 2019). Regarding investment decisions specifically, Ikeda et al. (2021) found that investment officers' personal optimism influences corporate-level investing behavior. The results show that a corporation invests in relatively substantial capital expenditures and in R&D when an investment officer is very hopeful. This shows that upbeat managers make more significant investments because they anticipate that a project's future cash flows will be higher.

Managerial optimism has an undeniable impact on the investment decisions of financially constrained firms. If the management of a firm has an optimistic outlook and a belief that their firm will succeed despite financial constraints, this can lead to decisions that strategically invest in the long-term success of the firm. Conversely, if the managerial team is pessimistic and fearful of the risks that come with investing in

a financially constrained firm, the decision-making process can be stifled, resulting in fewer investments and less growth. The relationship between managerial optimism and investment of financially constrained firms is complex and deserves further exploration.

Overall, the paper aims to enhance our understanding of the impact of managerial optimism on investment decisions, particularly in financially constrained firms, and the implications of such decisions for corporate finance. By analyzing the effects of optimism on investment decisions, the study aims to contribute to the existing literature on the subject, especially in the context of financially constrained firms. And by achieving the objective of examining the influence of managerial optimism on the investment decisions of financially constrained firms and exploring the implications of such decisions. Furthermore, the study seeks to provide recommendations for managers of such firms to make more informed investment decisions that align with their financial goals and constraints. This research is significant for several reasons. Firstly, it provides insights into the role of psychological factors in corporate decision-making along with the relationship between managerial optimism and investment cash flow sensitivity in these firms. The investigation of the impact of managerial optimism on investment decisions contributes towards enhancing our comprehension of how behavioral biases can impact investment outcomes in financially constrained firms. Secondly, this research has practical implications for managers of financially constrained firms. The study's findings provide insights into how managers can make more informed investment decisions that align with their financial constraints and objectives, by identifying the impact of managerial optimism on investment decisions. Thirdly, this research adds to the existing literature on investment cash flow sensitivity, which is a subject of great interest in corporate finance. By exploring the relationship between managerial optimism and investment cash flow sensitivity, the study expands our understanding of the underlying mechanisms that drive investment decisions in financially constrained firms.

The findings of this research offer valuable insights that can inform future research on investment decisions in financially constrained firms and facilitate the development of more effective investment strategies. Furthermore, this research is important as it enhances the understanding of the factors that influence investment decisions in financially constrained firms and provides insights that can assist managers in making more informed investment decisions. Notably, unlike prior empirical investigations, the research adopts a more comprehensive approach to measuring managerial optimism. Rather than confining the analysis to the optimism of a single manager, such as the CEO or CFO of a firm, it recognized that investment decisions are typically made by a group of individuals. Therefore, the insider stock transaction activity of the board of directors was used as a proxy for managerial optimism, which enables a more holistic assessment of the optimism of the management team and its impact on investment decisions.

This research paper comprises five distinct sections. The second section provides a comprehensive overview of the prior research conducted on the subject matter and establishes the hypotheses of the study. Section Three outlines the research methodology employed in the investigation. Section four presents the empirical findings derived from the analysis. And finally, the fifth section concludes the study.

1. LITERATURE REVIEW

The literature on financial constraints and investments is extensive. By asserting that perfect capital markets exist and that external funds are a perfect replacement for internal funds, Modigliani & Miller in 1958 suggested that the financial decisions made by companies had minimal impact on their investing practices. Fazzari et al. (1988) started the discussion on financial constraints. Their paper concluded that more financially constrained firms are more likely to exhibit higher investment-cash flow sensitivity. Constrained firms' investments are more sensitive to internal funds. They argued that asymmetric information in the capital markets may significantly affect the cost of internal and external financing for financially constrained firms. Whether managerial optimism has an influence on a company's investment decisions was examined by Heaton (2002). He found that managers with greater degrees of optimism are more sensitive to cash flows, which is why they will steer clear of positive net present value projects that must be funded externally since they understand that external financing is more expensive than internal financing. Malmendier & Tate (2005) provide empirical support for Heaton's claim that corporate

investment strategies are dependent on internal funding sources. The nature of such a connection is determined by the companies' budgetary limitations. They use the KZ index to quantify financial restrictions on U. S. corporations during the Great Recession and find that CEO overconfidence increases the sensitivity of investment to cash flow, which is greater for more restricted companies.

Lin et al. (2005) found that optimistic managers are more sensitive to investment-cash flow than non-optimistic managers. They rule out the idea that traditional agency and information asymmetry explanations are at play in the result. In contrast to previous research that suggests investment–cash flow sensitivity is caused by agency problems or information asymmetry; this study contributes to the literature by demonstrating an alternate source of influence on company decisions. Managerial optimism is considered to have an influence on their investment decisions. Empirical research on the relationship between corporate investment and managerial optimism was done in 2008 by Glaser et al. and to gauge optimism, managers' insider stock transaction behavior was examined. The major findings demonstrate that companies with optimistic managers invest more and that optimistic managers voluntarily raise rather than decrease their exposure to company-specific risk. The investment-cash flow sensitivity is higher for companies with optimistic management, and these effects are considerably more pronounced for companies with constrained financial resources. Further study by Barros & da Silveira (2007) shows that companies with optimistic management will select a more aggressive financing strategy, resulting in higher leverage ratios and capital structure effects. In their 2019 study, Maditinos et al. set out to determine how managerial optimism affected corporate investment in Greece's financially constrained firms. They believe that managers are typically overconfident and overly optimistic. They focus on how psychological bias affects managerial investment strategies. The empirical findings clearly show that in financially constrained companies, firms with optimistic managers exhibit higher investment-cash flow sensitivity.

Elgebeily et al. (2021) examined the effect of managerial optimism on the sensitivity of investment choice to cash flow. On a panel of publicly listed UK companies, they test two hypotheses regarding the sensitivity of investment decisions to cash flow. They show a significant positive relationship between managerial optimism in the UK market and the sensitivity of investment to cash flow. They argue that optimistic managers are more cash-flow sensitive than rational managers. Additionally, the sensitivity of investment to cash flow increases with optimism. Ikeda et al. (2021) want to see if managerial optimism has an impact on corporate investment behavior. They measure managerial optimism by polling CFOs and executives with responsibility for corporate investments in listed companies in Japan. They show that when managers are optimistic, capital investment is higher. The goal of the Al-Gharaibeh & Almwalla (2022) study is to determine how managerial optimism affects the company investment choices of financially constrained companies in Jordan. The sample companies under investigation are evaluated for their financial constraints using the KZ index, and the directors' dealings are used to gauge managerial optimism. The results clearly demonstrate that managerial optimism affects the levels of investments made by financially constrained companies in Jordan and that the optimism may even motivate the administration to increase investments. The current research, however, differs from previous research in many aspects. First, contrary to previous empirical studies, we did not limit our attention to the measure of optimism of a single manager, such as the CEO or CFO of a company, because most firms do not make all of their investment decisions alone. Instead, we focused on the board of directors to measure managerial optimism based on managers' insider stock transaction activity. Hence, by looking at the activity of selling and buying by board members, investors can follow an investment strategy by following the board members' actions. Second, we used a different measurement for financially constrained firms (Whited & Wu, 2006), which we consider more relevant as the formula includes all sources available for financing the capital expenditure investments. Finally, using the GMM as a means of analysis takes into consideration multicollinearity problems.

Based on the existing literature, the following hypotheses were developed:

H1: Managerial optimism has a positive and significant impact on firm's investment decisions.

H2: The interaction between cash flow and managerial optimism has a significant impact on investment decisions.

H3: Financially constrained firms exhibit a higher level of investment cash flow sensitivity due to the bias of managerial optimism.

2. DATA AND METHODOLOGY

2.1 Sample and Data

The population for this study comprises all industrial firms that were listed on the London Stock Exchange (LSE) from 2011 to 2020. However, this research utilized a purposive sampling method to test the hypotheses stated earlier, and the final sample included firms that met specific criteria. Consequently, the final sample size consisted of 142 firms. The use of purposive sampling allowed for a more focused and relevant sample, which enhanced the study's validity and reliability.

The study's sample is comprised of companies meeting the following criteria:

- Availability of all necessary information from 2011 to 2020.
- Continuous trading of firms' stocks on the London Stock Exchange (LSE) between 2011 and 2020.
- Availability of insider transaction details.

To meet the criteria for our study, we gathered data on 142 industrial firms listed on the London Stock Exchange (LSE) between 2011 and 2020. In order to identify insider dealing by the board of directors as a proxy variable for managerial optimism, we had to collect daily information, which required a significant amount of effort. Firms with missing data were excluded from the sample, resulting in a final sample size of 142. The sample was selected based on the availability of consistent data over the specified period. However, we had to remove some firms due to a lack of data required for the Whited-Wu index and a lack of insider transactions, resulting in a smaller sample. Our primary data source for this study was DataStream. The variables used in the study are summarized in

Table 1.

The dataset utilized in this study comprises of 1,420 annual observations of non-financial firms listed on the London Stock Exchange. The insider transactions of these firms were extracted using DataStream. GMM balanced panel data was employed for analysis, and a total of 50,288 director transactions were reported during the study period. To ensure accuracy, outliers were winsorized during data collection. The data was analyzed using STATA.

2.2 Study Models

Following Glaser et al. (2008), we estimate the following model

Capex (CE) = f (managerial optimism, (Ln(TA)), MOP*cash flow, Controls, FC)

To be more specific, the study will test the hypotheses using the following equation:

$$CE_{it} = \alpha_0 + \beta_1 MO_{it} + \beta_2 Size_{it} + \beta_3 (MOP * CF)_{it} + \beta_4 CF_{it} + \beta_5 TQ_{it} + \beta_6 Lev_{it} + \beta_7 FC_{it} + \varepsilon_{it}$$

Where: it refers to the company and year, respectively. CE is the firm's capital expenditure measure as defined in Table 1. α_0 is the constant, MOP is the proxy for managerial optimism, size is the natural log of total assets, $(MOP * CF)$ is the interaction between managerial optimism and cash flow, CF is the firm's cash flow, TQ refers to Tobin Q, Lev refers to debt ratio, FC is a dummy variable for financial constraint, β_1 to β_6 are vectors of coefficients, and ε_{it} is the error term.

In this study, the measure of managerial optimism used as an independent variable is based on an average calculation over the entire sample period. However, it is acknowledged that managerial optimism may fluctuate over time. To account for this, an interaction term between managerial optimism and cash flow was created as an independent variable, allowing for the effect of optimism to vary with changes in cash flow. Control variables used in the analysis include firm size, cash flow, Tobin's Q, and leverage.

2.3 THE MEASUREMENT OF FINANCIAL CONSTRAINTS

To measure financial constraints, most studies use an index based on the work of Kaplan & Zingales (1997) and Lamont et al. (2001). Other indexes, such as the Whited-Wu-index (Whited & Wu, 2006), have been proposed in the literature. This study opts to utilize the Whited-Wu index (Whited & Wu, 2006) as a means of identifying firms that have high external fund costs.

Whited-Wu (2006) index = $-0.091 * (\text{Cash flow} / \text{total assets}) + 0.062 * \text{Dividend dummy} + 0.021 * (\text{Long-term debt} / \text{total assets}) - 0.044 * \text{Size} + 0.102 * \text{Industry sales growth} - 0.035 * \text{Sales growth}$.

The higher the value of this index, the more difficult (or costly) it is for a firm to obtain external financing. Therefore, the higher the degree of financial constraint.

The Whited-Wu-index was utilized in this research to segment the sample firms into two categories: those that experience higher financial constraints and those that experience lower financial constraints. The calculation of the Whited-Wu-index was conducted for each company in the sample throughout the study period. The firms were then ranked based on their Whited-Wu-index values, and a threshold of 50% was used as the dividing line. Firms whose scores were below this threshold were classified as less constrained, while those whose scores exceeded it were classified as more constrained. This categorization enabled the researchers to investigate how managerial optimism and investment decisions vary among firms with different levels of financial constraints.

Table 1. Measurement of variables used in research models.

<i>Variables</i>	<i>Measurement</i>
CE	CAPEX (capital expenditure/ lagged asset) (Glaser et al., 2008)
Cash Flow (CF)	EBIT + Depreciation, Depletion, amortization (Glaser et al., 2008)
Total Asset (TA)	Total asset
Dividend	Dummy is an indicator that is equal to one if the firm pays dividends and zero otherwise (Whited & Wu, 2006)
Long term debt	Long term debt (Whited & Wu, 2006)
Size	Natural logarithm of total assets (Whited & Wu, 2006)
Sales growth	Sales growth (Whited & Wu, 2006)
Industry sales growth	Mean of sales growth per industry class (Whited & Wu, 2006)
FC	Dummy variable is an indicator that is equal to one if the firm score > than 50% and zero otherwise (Whited & Wu, 2006)
Tobin Q (TQ)	(Market capitalization + Total asset- common equity)/Total asset) (Glaser et al., 2008)
Debt ratio (Lev)	Debt/ total asset (Kaplan & Zingales, 1997)
MOP	Dummy variable (i.e., the measure of optimism), and it is 1 if the manager is categorized as optimistic and 0 otherwise. (Glaser et al., 2008)
MOP*CF	Interaction between managerial optimism and cash flow. (Glaser et al., 2008)
FC(CF*OP)	Interaction between cash flow and managerial optimism in financial constraint firms.

Source: compiled by the authors

2.4 Optimism Measures

The calculation of managerial optimism in this study is based on the transactions of directors' dealings within the sample companies during the period from January 1, 2011, to December 31, 2020. To develop the optimism scalar, we followed the methodology outlined in Glaser et al. (2008), which

involves calculating the total number of sales or purchases made by each member of the board of directors for each company throughout the sample period. We assign a value of 1 to purchases of company stock by insiders and -1 to sales. These indicator variables are then summed annually by firm and year. To create an optimism measure, we use "dummy" variables based on the resulting "dummy-number" variable. The dummy-number variable is 1 when the number variable is positive and 0 otherwise. This approach allows us to capture the influence of managerial optimism on investment decisions while accounting for the possibility that the level of optimism may vary over time.

2.5 Data Processing Method

The two-step Generalized Method of Moment (GMM) approach developed by Bover et al. (2002) and Blundell & Bond (1998) was employed to analyze the data. This method is well-suited for panel data samples with a large number of cross-sectional units (N) and a small number of time periods (T) and has the advantage of addressing potential endogeneity issues that may arise in the data (Wooldridge, 2001). The system GMM model using first differences is employed to remove the potential correlation between the lag-dependent variable and the error term. Furthermore, this method controls for endogeneity by including lags for both exogenous and endogenous variables. This study posits that the capital expenditure decisions made by managers exhibiting high levels of optimism may offer greater information content, particularly in firms characterized by asymmetric information. In addition, the cash flow constraints faced by such managers may be more pronounced, as their decisions may be less informed than those of more rational counterparts (Malmendier et al., 2011; Malmendier & Tate, 2005). As endogeneity problems can cause biased estimations, we first test the null hypotheses that the variables under study are exogenous. Specifically, the Hausman test was employed to test the null hypothesis of exogeneity (Hausman, 1978).

3. EMPIRICAL FINDINGS AND ANALYSIS

3.1 Descriptive Statistics

Table 2 presents the descriptive statistics for the variables utilized in this study from 2010 to 2020, including mean, standard deviation, maximum, and minimum values. The table comprises six indicators for all samples, namely the ratio of CE to lagged assets, the ratio of TQ (Tobin's Q), size, the ratio of leverage, managerial optimism, and the ratio of CF to lagged assets. The samples are categorized based on the White-Wu index into two groups, one comprising firms facing financial constraints (CF=1), and the other consisting of firms experiencing lower or no financial constraints.

Table 2. Descriptive Statistics for constrained and unconstrained firms

	Company Specific Variables					
<i>All companies</i>	<i>CE</i>	<i>TQ</i>	<i>Size</i>	<i>Lev</i>	<i>MOP</i>	<i>CF</i>
<i>Mean</i>	0.043	1.91	14.81	0.238	0.699	0.144
<i>St. dev</i>	0.036	1.018	1.63	0.155	0.459	0.098
<i>Minimum</i>	0.002	0.843	9.52	0	0	-.022
<i>Maximum</i>	0.140	4.70	19.21	0.57	1	0.9403
<i>Constrained firms (FC=1)</i>						
<i>Mean</i>	0.042	1.884	14.77	0.237	.6929	0.143
<i>St. dev</i>	0.037	0.960	1.586	0.154	.4615	0.099
<i>Minimum</i>	0.002	0.841	9.521	0	0	-.022
<i>Maximum</i>	0.140	4.26	19.20	0.57	1	.403
<i>Unconstrained firms</i>						
<i>Mean</i>	.043	1.908	14.86	.238	.705	.144
<i>St. dev</i>	.035	1.013	1.69	.156	.456	.096
<i>Minimum</i>	.002	.842	10.32	0	0	-.022
<i>Maximum</i>	.140	4.702	19.20	.57	1	.403

Source: compiled by the authors

According to the results of this study, the average ratio of cash flows to total assets among UK firms was approximately 14%, while the average Tobin's Q was 1.9. Moreover, the average ratio of capital expenditures to total assets was found to be 4.3%. It is notable that companies in the sample relied on approximately 24% of their liabilities to finance their assets.

3.2 The Effects Of Managerial Optimism On Capital Expenditures

The regression results using the GMM technique are provided in Table 3. Panel one illustrates the impact of managerial optimism on firms' investments for the sample in the study. Panel two shows the results indicating the impact of the interaction between managerial optimism and cash flow, while the third panel outlines the results of the impact of managerial optimism in firms with high cash flow for financially constrained firms.

Table 3. The impact of MOP on capital expenditures

	<i>MOP</i>	<i>MOP*CF</i>	<i>MOP*FC</i>
<i>Variables</i>	<i>Panel 1</i>	<i>Panel 2</i>	<i>Panel 3</i>
L1(Cap)	.104*** (0.000)	0.116*** (0.000)	.124*** (0.000)
MOP	0.0005 (0.85)	.0007 (.776)	.002 (.436)
MOP*CF		.102*** (0.000)	
FC(CF*OP)			.064*** (0.000)
Size	0.0047** (0.02)	.0022*** (.000)	.002** (.000)
TQ	0.002** (0.044)	-0.002** (0.013)	.0007 (0.518)
Lev	-0.0027 (0.96)	-.0073 (0.215)	0.003 (0.532)
DIND	Yes	Yes	Yes
DMyear	Yes	Yes	Yes
Observations	1278	1278	1,278
Number of N	142	142	142
Chi 2	126.74***	163.85***	119.00***
Sargan Test	47.665	46.319	50.205
AR (1)	-7.4693***	-7.2441 ***	-7.358***
AR(2)	1.6274	.4847	.702

(A substantial first-order correlation (AR1) and a non-significant second-order serial correlation (AR2). Under the null hypothesis, the Sargan test of over-identifying constraints reveals that our instruments are valid.

***Significant at the 0.01 level,

**Significant at the 0.05 level,

*Significant at the 0.10 level.

Source: compiled by the authors).

Table 3 panel 2 presents the empirical findings on the relation between managerial optimism and cash flow on firms' capital expenditure decisions. The results indicate a positive and significant relationship between the interaction of managerial optimism and cash flow on firms' capital expenditure. Interestingly, the study finds that managerial optimism alone has no significant impact on capital expenditure decisions, and that firm size and TQ have a significant and positive impact on capital expenditures. These findings support the study's second hypothesis, which suggests that the interaction between cash flow and managerial optimism has a significant impact on firms' investment decisions. This highlights the importance of considering multiple factors, such as cash flow and managerial optimism, in assessing a firm's investment decisions. Overall, this result provides valuable insights into the factors that drive firms' capital expenditure decisions, and suggests that managerial optimism may not be a significant driver of investment decisions on its own.

The third panel of the same table reports the results on the moderating role of managerial optimism on capital expenditure decisions in financially constrained firms. The results reveal that the interaction between managerial optimism and cash flow significantly affects the firm value in financially constrained firms. This implies that the availability of internal funds, as reflected in cash flow, is crucial in shaping the investment decisions of financially constrained firms under optimistic management. This lends support to the study's third hypothesis, which suggests that the investment performance of these firms is more sensitive to their cash flow under optimistic management. These results provide valuable insights into the investment behavior of financially constrained firms, and suggest that optimistic management may have a significant impact on their investment decisions.

CONCLUSION

In conclusion, this study investigates an important question in behavioral finance: how does managerial optimism affect investment decisions? In this study, the relationship between firm investment and managerial optimism was empirically examined. In contrast to previous studies that focused on the measure of optimism of a single manager, the focus of this study was not limited to the measure of optimism of a single manager, such as the CEO or CFO of a company, because most firms do not make all of their investment decisions alone. Instead, this study utilizes insider stock transaction activity of the board of directors to measure managerial optimism. By examining the effectiveness of managerial optimism in explaining investment decisions made by UK companies and how optimistic managers' investment decisions are influenced by cash flow. In addition, the study utilized the Whited and Wu index to the financial constraints of firms, and then, using the more constrained firms to regress the investment on cash flow, optimism, and the interaction between optimism and cash flow.

The empirical findings of this study reveal that optimistic managers play a crucial role in driving firms' investment decisions. It has produced compelling empirical evidence that optimistic managers play a crucial role in driving firms' investment decisions. The study also demonstrates the significant and positive impact of the interaction between managerial optimism and cash flow on corporate investment. Additionally, the study highlights the importance of financial constraints, indicating that financially constrained firms benefit the most from managerial optimism.

Overall, this research provides valuable insights into the interplay between managerial attitudes, decision-making processes, and a company's financial performance. The findings contribute to the literature by enhancing our understanding of how companies can achieve sustainable growth and success by prioritizing managerial optimism and its positive effects on investment decisions. Policymakers and stakeholders can utilize these insights to develop effective policies and strategies to support the growth and success of financially constrained companies. Future research can examine other factors such as firm size, ownership structure, and corporate governance to provide a more comprehensive understanding of the complex dynamics at play in firms' investment decisions.

REFERENCES

- Al-Gharaibeh, S.M., Almwalla, M. (2022), "The Effect of Managerial Optimism on Corporate Investment of Financially Constrained Firms", *Evidence From Emerging Markets*. Vol. 6, No. 8, pp. 5485–5497.
- Barros, L.A.B. de C., da Silveira, A.D.M. (2007), "Overconfidence, Managerial Optimism and the Determinants of Capital Structure", *SSRN Electronic Journal*, <https://doi.org/10.2139/ssrn.953273>
- Ben Mohamed, E., Fairchild, R., Bouri, A. (2014), "Investment cash flow sensitivity under managerial optimism: New evidence from NYSE panel data firms", *Journal of Economics, Finance and Administrative Science*, Vol. 19, No. 36, pp. 11–18. <https://doi.org/10.1016/j.jefas.2014.04.001>
- Blundell, R., Bond, S. (1998), "Initial conditions and moment restrictions in dynamic panel data models", *Journal of Econometrics*, Vol. 87, No. 1, pp. 115–143. [https://doi.org/10.1016/S0304-4076\(98\)00009-8](https://doi.org/10.1016/S0304-4076(98)00009-8)
- Bover, O., Arellano, M., Bentolila, S. (2002), "Unemployment Duration, Benefit Duration and the Business Cycle", *The Economic Journal*, Vol. 112, No. 479, 223–265. <http://www.jstor.org/stable/798418>
- Elgebeily, E., Guermat, C., Vendrame, V. (2021), "Managerial optimism and investment decision in the UK", *Journal of Behavioral and Experimental Finance*, Vol. 31, 100519. <https://doi.org/10.1016/j.jbef.2021.100519>
- Fazzari, S.M., Hubbard, R.G., Petersen, B.C., Blinder, A.S., Poterba, J.M. (1988), "Financing Constraints and Corporate Investment", *Brookings Papers on Economic Activity*, Vol. 1, Vol. 141–206. <https://doi.org/10.2307/2534426>
- Glaser, M., Schäfers, P., Weber, M. (2008), "Managerial Optimism and Corporate Investment: Is the CEO Alone Responsible for the Relation?", *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.967649>
- Habib, A., Huang, X. (2019), "CSR investment and cash flow sensitivity under the managerial optimism" *Journal of Statistics and Management Systems*, Vol. 22, No. 1, pp. 11–30. <https://doi.org/10.1080/09720510.2018.1489427>
- Hausman, J.A. (1978), "Specification Tests in Econometrics", *Econometrica*, Vol. 46, No. 6, pp. 1251–1271. <https://doi.org/10.2307/1913827>
- Heaton, J.B. (2002), "Managerial Optimism and Corporate Finance", *Financial Management*, Vol. 31, No. 2, pp. 33–45. <https://doi.org/10.2307/3666221>
- Ikeda, N., Inoue, K., Sugitani, S. (2021), "Managerial optimism and corporate investment behavior", *Journal of Behavioral and Experimental Finance*, Vol. 30, 100492. <https://doi.org/10.1016/j.jbef.2021.100492>
- Kaplan, S. N., & Zingales, L. (1997), "Do Investment-Cash Flow Sensitivities Provide Useful Measures of Financing Constraints?", *The Quarterly Journal of Economics*, Vol. 112, No. 1, pp. 169–215. <https://doi.org/10.1162/003355397555163>
- Lamont, O., Polk, C., Saaá-Requejo, J. (2001), "Financial Constraints and Stock Returns" *The Review of Financial Studies*, 14, No. 2, pp. 529–554. <https://doi.org/10.1093/rfs/14.2.529>
- Lin, Y., Hu, S., Chen, M. (2005), "Managerial optimism and corporate investment: Some empirical evidence from Taiwan" *Pacific-Basin Finance Journal*, Vol. 13, No. 5, pp. 523–546. <https://doi.org/10.1016/j.pacfin.2004.12.003>
- Lin, Y., Hu, S., Chen, M. (2008), "Testing pecking order prediction from the viewpoint of managerial optimism: Some empirical evidence from Taiwan", *Pacific-Basin Finance Journal*, Vol. 16, No. 1, pp. 160–181. <https://doi.org/10.1016/j.pacfin.2007.04.007>
- Maditinos, D., Tsinani, A., Sević, Z., Stankevicienė, J. (2019), "Financially Constrained Firms: The Impact of Managerial Optimism and Corporate Investment on Inefficiencies Leading to Low Market Valuation - The Case of Greece", *Springer Proceedings in Business and Economics*, pp. 379–397. https://doi.org/10.1007/978-3-319-70377-0_26
- Malmendier, U., Tate, G. (2005), "CEO Overconfidence and Corporate Investment", *The Journal of Finance*, Vol. 60, No. 6, pp. 2661–2700. <https://doi.org/10.1111/j.1540-6261.2005.00813.x>

- Malmendier, U., Tate, G., Yan, J.O.N. (2011), "Overconfidence and Early-Life Experiences: The Effect of Managerial Traits on Corporate Financial Policies", *The Journal of Finance*, Vol. 66, No. 5, pp. 1687–1733. <https://doi.org/10.1111/j.1540-6261.2011.01685.x>
- Modigliani, F., Miller, M.H. (1958), "The Cost of Capital, Corporation Finance and the Theory of Investment", *The American Economic Review*, Vol. 48, No. 3, pp. 261–297. <http://www.jstor.org/stable/1809766>
- Nofsinger, J. R. (2005). Social Mood and Financial Economics. *Journal of Behavioral Finance*, Vol. 6, No. 3, pp. 144–160. https://doi.org/10.1207/s15427579jpfm0603_4
- Whited, T.M., Wu, G. (2006), "Financial Constraints Risk", *The Review of Financial Studies*, Vol. 19, No. 2, pp. 531–559. <https://doi.org/10.1093/rfs/hhj012>
- Wooldridge, J.M. (2001), "Econometric analysis of cross section and panel data" in *The MIT Press*. <https://doi.org/10.1515/humr.2003.021>

