The Effect Of Managerial Optimism On Corporate Investment Of Financially Constrained Firms – Evidence From Emerging Markets

Sujood M Al-Gharaibeh¹, Mona Almwalla²

¹Master degree of Finance and Banking Science at Yarmouk University, Jordan. Email: <u>sujoodg46@gmail.com</u> ³Professor of Banking and Finance Science at Yarmouk University, Jordan. Email: <u>malmwalla@yu.edu.jo</u>

Abstract

The objective of this study is to identify the impact of managerial optimism on the corporate investment decisions of financially constrained firms in Jordan during the 2013–2019 period. The sample consists of 56 companies from the industrial and services sectors. The data was sourced from the annual reports of the sampled firms listed on the Amman Stock Exchange (ASE). The research methodology is based on the KZ index to measure the financial constraints of the sample companies under investigation and the directors' dealings to measure the managerial optimism. The study sample was analyzed using multiple fixed effects panel regression with capital expenditures as a measurement of investment level and cash flow, Tobin's Q, leverage, managerial optimism, and the interaction between optimism and cash flow as independent variables. The findings clearly show that managerial optimism has an impact on the investment levels of financially constrained companies in Jordan. As such, optimism might encourage the administration to invest more.

Keywords: Managerial Optimism, Corporate Investment, Financial Constraints, Emerging Markets.

I. Introduction

Corporate finance has a significant impact on firm performance, whether it's in terms of growth, profitability, investment decisions, or even survival. During the recent financial crisis, companies in general have reported severe problems securing funding access to finance operations. The economic crisis has resulted in a reduction in the availability of internal financial resources, while credit requirements on loans to non-financial corporations have tightened. Because access to finance is often seen as a critical aspect for companies to run their day-to-day operations as well as achieve long-term growth, the economy as a whole may be threatened by the worsening availability of financial resources (Ponikvar et al., 2013).

Companies listed in emerging markets mostly rely on the credit market and internal funds to finance their investments, and the relative cost and availability of this financing is determined by the credit market's development as well as the relationship between companies and funds providers. This relationship has an impact on the cost of capital, which is influenced by the degree of asymmetric information between the firm and its creditors, with a high level of asymmetric information limiting the firm's ability to raise cash. The same case applies to Jordanian companies, although they face more difficulties regarding financing because they operate in an emerging market that suffers from monetary and economic growth instability.

From a financing point of view and according to the popular pecking order theory, each firm prioritizes funding sources based on the costs it incurs, and the first choice is internal finance, which is the cheapest and most convenient source of financing among the sources available. Debt is the next potential option, followed by a new stock issue. When firms face difficulty getting external finance, they become unable to achieve their goals of growth and it is difficult to earn a profit. Given the above financing issues, capital expenditure is a very crucial decision to be made as they focus on identifying projects that will increase shareholder value. Given that company managers are not immune to psychological biases, it will be interesting to investigate if managerial optimism influences financial decisions made by managers (Elgebeily et al., 2021).

Optimism and pessimism influence behavior patterns through their influence on the individual's expectations of future positive outcomes. In the case of the company, this impact may be seen in the form of managerial expectations of future business growth. Depending on the environment in which the firm operates and the degree to which the manager influences strategy within the firm, whether a manager is inclined to realize that growth by exploring new opportunities or extracting value from existing business activities can affect firm performance in a variety of ways (Neill et al., 2 020).

The theory of managerial optimism links the level of managerial optimism and the

investment opportunities available to the company (Heaton, 2002). Optimism is defined as the tendency to look and think on the best side of events and future outcomes. It impacts a wide range of company and individual decisions (Bouwman, 2013). Jordan's economy relies heavily on the service and industrial sectors. Some Jordanian industrial and service companies are unable to fund their projects due to financial constraints and hence rely primarily on internally generated cash flow. Therefore, they may reject projects with a positive net present value because their cash flow is insufficient to fund them.

2. Literature Review and Hypotheses Development

Financial constraints and investments

Modigliani and Miller (1958) claimed that ideal capital markets exist and that external funds are a perfect replacement for internal funds, implying that firms' financial decisions have little bearing on their investment conduct. Fazzari et al. (1988) investigatede investment behavior for empirical evidence of financial constraints and established the equilibrium model by using market frictions in business cycle fluctuations. Their research found that the investments of financially constrained firms are highly sensitive to internal funds, while the investments of unconstrained firms are unrelated to internal funds. They explained that this is due to asymmetric information problems in the capital markets, which may result in a significant difference in the cost of internal and external funds for financially constrained firms. Kaplan and Zingales (1997) extended Fazzari et al. (ibid) to) examine the relationship between financing constraints and investment-cash flow sensitivity. They discovered that companies

that appear to be less financially constrained have much higher sensitivity than companies that appear to be more financially constrained for industrial US companies. Based on regression coefficient estimates in Kaplan and Zingales (1997), Lamont et al. (2001) establish an index of financial constraints by creating a general index of financial constraints by sorting companies into portfolios based on their level of financial constraints. Using the regression coefficients to create the KZ index, which is made up of a linear combination of five accounting ratios, they discover that the stock returns of financially constrained firms tend to move together over time, implying that constrained firms are subject to common shocks.

Managerial Optimism and Corporate investment

In a study conducted by Heaton (2002), the link between corporate investment decisions and managerial optimism is found. He revealed that an optimistic manager will avoid positive net present value projects that must be funded externally, and that managers with a higher level of optimism are more sensitive to cash flows, but would be more likely to take on risky projects if they are loyal to shareholders and have the funds to do so. Heaton's concluded that corporate investment strategies are sensitive to internal funding sources; this result was confirmed by Malmendier and Tate (2005a), develop multiple indicators of managerial optimism and find that managerial optimism influences CEOs' investment and takeover decisions in the United States. Using the Kaplan and Zingales (KZ) measure of financial they indicate that constraints, CEO overconfidence increases the sensitivity of investment to cash flow, which is greater for more constrained companies. They based their conclusion on the assumption that when these companies try to use external funds to fund their investment programs, they have a lot of trouble. External funding would be more costly for constrained companies. As a result, optimistic managers should choose internal funds, and the vulnerability of their corporate investment to internal cash flow would be intense when companies are still financially constrained. Glaser et al. (2008) empirically analyzed the link between corporate investment and managerial optimism. Thev measure managerial optimism using the insider stock transaction behavior of all senior managers in the firms. The key findings show that optimistic managers make more investments. The investment-cash flow sensitivity is more sensitive for companies with optimistic management, and these effects are even more pronounced for companies with financially Lin et al. (2008) constrained firms. demonstrate that managerial optimism can explain pecking order preferences in financial decisions. They discover that optimistic managers are more sensitive to net debt issue/financing deficits than nonoptimistic managers. These results are in line with Heaton's model's predictions. In Ben Mohamed et al. (2014), they construct and introduce a proxy of managerial optimism following Malmendier and Tate (2005a) to show the impact of CEOs' optimism on the relationship between investment and internal cash flow. The results report a positive and significant coefficient of investment to cash flow for the full sample. While on estimations of the model using sub-samples of more and less constrained firms, they find that the sensitivity exists for only the totally constrained group.

Managerial Optimism and Financial constraints

Chen and Lin (2013) found that even when a company is financially constrained, a highly optimistic manager is more willing to raise capital expenditure. Because they may overestimate project payoffs while underestimating risks. Even when companies are less financially constrained, lowoptimism managers are found to have no significant impact on firm investment levels. Even when faced with financial constraints, an optimistic management tends to increase firm investment, which leads to an increase in firm valuation. Maditinos et al. (2019) investigate the effect of managerial optimism on corporate investment regarding financially constrained firms. The study used a sample of non-financial firms with the highest financial constraints to investigate the effect of optimistic managers' behavior on company financial constraints. The findings indicate constrained firms are less profitable, have a lower pay-out ratio, have a lower excess value, and are more likely to be financially distressed. The empirical findings clearly show that in financially constrained companies. the investment-cash flow sensitivity of firms with optimistic managers is more pronounced. Elgebeily et al., (2021) investigate the impact of managerial optimism on investment decision sensitivity to cash flow. They use several measures of optimism, based on the exaggerated activities of the manager as proposed by Schrand and Zechman (2012) and Campbell et al. (2011). They find there is a strong positive relationship between the sensitivity of investment to cash flow and managerial optimism in the UK market. Optimistic managers, they claim, are more sensitive to cash flow than rational managers. Moreover, the higher the level of optimism, the higher the sensitivity of investment to cash flow.

2.1 Hypotheses of the study

The section above summarizes the published research on this topic and concludes that the majority of studies point to the same empirical conclusion: optimism has a strong impact on corporate investment decision. The current research aims at examining the impact of managerial optimism on corporate investment in Jordanian financial constrained companies, and to that end, hence to achieve the above aim the following hypotheses have been formulated:

H1: Managerial optimism has a significant impact on investment decisions.

Subset hypothesis:

H1A: Managerial optimism has a significant impact on investment decisions within financially constrained firms.

H1B: Managerial optimism has a significant impact on investment decisions within financially unconstrained firms.

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

Subset hypothesis:

H2A: The interaction between cash flow and managerial optimism has a significant impact on investment decisions within financially constrained firms.

H2B: The interaction between cash flow and managerial optimism has a significant impact on investment decisions within financially unconstrained firms.

3. Methodology of the study

3.1 Research Models

To test the effect of managerial optimism on corporate investment in financial constrained firms in Jordan, we use a constrained subsample to run the following empirical model. The methodology followed is Glaser et al. (2008).

$$\begin{split} I_{i,t} &= \beta_0 + \beta_1 C F_{i,t} + \beta_2 Q_{i,t-1} + \beta_3 D_{i,t} \\ + \beta_4 O P_{i,t} + \beta_5 OPC F_{i,t} + \epsilon.....(1) \end{split}$$

I is the investment, CF is the cash flow from operation, Q is the ratio of (Market capitalization + Total asset- common equity)/Total asset, D is the debt to asset ratio, and Op is the dummy variable (i.e., the measure of optimism), and it is 1 if the manager is categorized as optimistic and 0 otherwise. We normalize investment and cash flow by total assets at the start of the fiscal year to avoid any potential distortion caused by firm size differences. $\beta 5$, the interaction coefficient between the optimism dummy variable and cash flow.

3.2 The Measurement of Financial Constraints

Since financial constraint is not a directly observed variable, researchers have heavily relied on proxies to measure the degree of constraint. The most popular constraint proxies used in recent literature are the Kaplan and Zingales (1997) index (KZ index), the Whited and Wu (2006) index (WW index). The Kaplan-Zingales-index, which is used to measure financial constraints, was used for this study.

In reality, <u>Lamont et al. (2001)</u> are responsible for the actual KZ index. Those researchers developed an ordered logit model that relates the degree of financial constraints as classified by Kaplan and Zingales (1997) to five readily available accounting variables: cash flow, market-to-book value, leverage, dividends, and cash holdings. This index is presented here in the same order as it was in Lamont et al. (2001):

KZ	Index	=	-1.001909*
Cash Fl	ows10 282	6380*Та	bin's O
Total Cap	tal_{t-1}	0507 10	VIIII S Q
+3.1391	.93*		Leverage-
39 3678	* Dividends		-
57.5070	total capital _t .	-1	
1 31/75	0*Cash		(2)
1.314/3	total capital	t-1	(2)

The Kaplan-Zingales-index has been used to split our sample firms into two groups: one more constrained and the other less constrained. After calculating the KZ index for the sample companies during the study period, firms are ranked based on the values of the KZ index. Using a value of 50% as a cutoff point, firms were ranked as low or less constrained if their score was below 50%, otherwise they were ranked as more constrained (Lamont et al. (2001)).

No	Variables	Measurement
1	Ι	Capital Expenditure
2	Cash flow	EBIT + Depreciation, Depletion, amortization
3	Capital	Property, plant, equipment (net)
4	Tobin's Q	(Market capitalization +Total asset- common equity)/Total asset
5	Debt ratio	Debt/Total asset
6	Cash	Cash and short term Investments

Table 1. Measurement of variables used in research models.

(Source: compiled by the authors).

3.3 Data Collection

The data was collected from the Jordanian industrial and service shareholding

companies' guide and annual financial reports issued by companies listed on the Amman stock exchange (ASE) of 56 nonfinancial firms from 2013 to 2019. The fiscal years of the companies under investigation all begin on January 1 and end on December 31. During this period, a total of 2,459 director's dealings were reported. Data was collected and outliers were winsorized for analysis functions. The data was processed by STAT. In this study, panel data was analyzed quantitatively. Using descriptive statistical methods, the model's status for the research variables was evaluated.

3.4 Optimism Measures

The calculation of managerial optimism has been dependent on the transactions of the directors' deals for the Board of Directors in the companies, according to the data that has been collected during the period from January 1, 2013 to December 31, 2019.

Following <u>Glaser et al. (2008)</u>, optimism scales were created based on the transactions of the directors' deals. During the sample period, the number of purchases or sales for each company has been calculated. Following that, the number of purchases and sales are then accumulated on a yearly basis. Therefore, they receive an annual number. On the basis of this variable, an optimism measure has been built using simple "dummy" variables. If the "number"-variable is positive, the "dummy-number"-variable equals 1. Otherwise, it equals 0.

3.5 Data Processing Method

This study used quantitative analysis methods with panel data. The status of the

research variables in the model was assessed using descriptive statistical approaches. The study employed regression analysis with a fixed effect model (FEM) to discover the model that best matches the research data using the Hausman test. The examination of the OLS regression model was deemed unsuitable due to the peculiarities of panel data with two components of space and time.

Fixed effects panel regression has been used for all companies with the highest and lowest financial constraints as identified by the index of <u>Kaplan and Zingales (1997)</u> in order to investigate the effect of the behavior of optimistic managers on firm financial constraints. The methodology used is that of <u>Glaser et al. (2008)</u>. Then companies are divided into two categories according to how financially constrained they are. Managers are classified as optimistic or pessimistic using a "dummy" variable (not optimistic). When managers are classified as optimistic in a particular year, the "dummy" variable equals 1.

4. Empirical Results

4.1 Descriptive statistics of financial constraints

<u>Table (2)</u> displays descriptive statistics (i.e., mean, median, and standard deviation, maximum and minimum) for the variables used in this study over the period from 2013 to 2019 for firm characteristics that are supported by the Kaplan-Zingales-index.

	Financially Constrained Firms						Financially Unconstrained Firms				S	
Variables	NO	Mean	P50	S.D	Mix	Min	NO	Mean	P50	S.D	Mix	Min
Ι	196	0.04	0.02	0.08	0.16	0	196	0.04	0.02	0.04	0.16	0
Cash flow	196	0.052	0.048	0.07	0.23	-0.11	196	0.12	0.11	0.05	0.23	-0.7
Lagged Tobins Q	196	0.98	0.97	0.32	1.95	0.43	196	1.18	1.07	0.43	1.95	0.43

Table (2): Summary statistics: Classification based on the KZ index

Leverage	196	0.48	0.43	0.21	0.84	0.10	196	0.22	0.20	0.15	0.80	0.03
EBIT/assets	196	0.02	0.01	0.06	0.18	-0.16	196	0.09	0.08	0.05	0.18	-0.08
Pay-out ratio	196	0.02	0	0.06	0.23	0	196	0.05	0.03	0.06	0.02	0
(dividend												
payment/asset)												

(Source: compiled by the authors).

For financially constrained firms, the ratio of capital expenditures shows a declining tendency compared with financially unconstrained firms. Where the mean for financially constrained firms is 0.039, compared to 0.041 for financially unconstrained firms (see appendix figure 2). When comparing financially constrained firms to those that are not, those that are financially constrained have lower (cash flow).This means that financially constrained companies have lower cash flow than financially unconstrained firms (see appendix figure 1). The results show a divergence in Tobin's Q values. When comparing financially constrained firms' values to financially unconstrained firms' values. financially constrained firms' values have lower Tobin's Q values. Tobin's Q value is greater than 1 is considered a high-growth firm, while Tobin's Q value is less than 1 is considered a low-growth firm. According to this criterion, the mean Tobin's Q value for financially constrained firms is 0.983, indicating that financially constrained firms are low-growth firms. While the mean Tobin's Q value for financially constrained firms is 1.187, financially unconstrained firms are considered high-growth firms (see appendix figure 3). Financially constrained less firms are profitable (the productivity of the firm's assets is lower) compared with financially unconstrained firms. (See appendix figure 5). Financially constrained firms have a lower dividend payout ratio compared with financially unconstrained firms. (See appendix figure 6). Financially constrained firms have lower leverage compared with financially unconstrained firms. (See appendix figure 4).

4.2. Regression Analysis

To test the hypothesis, we ran a fixed-effects panel regression on a sub-sample to investigate the impact of financial constraints on investment cash flow sensitivity when managers are optimistic.

4.2.1 Regression results of the effects of managerial optimism on corporate investment in financially constrained and financially unconstrained firms.

Table 3, column two, displays the details of the regression estimations for financially constrained firms, while column three shows the estimation results of the same regression for a sub-sample that is classed as unconstrained firms. As shown in <u>Table 3</u>, the adjusted-R-squared of firms that are financially constrained is 0.113. This implies that all the independent variables explain 11.3% of the change in the dependent variable. The adjusted-R-squared of firms that are not financially constrained is 19.7 percent. This implies that all the independent variables explain 19.7% of the change in the dependent variable. At least one of the independent variables can explain the corporate investment of financially constrained firms.

		Constra	int Firr	ns	Un	constrair	nt Firms	
Dependent Variable: (I) capital expenditure								
Variable	Coef.	St.Err.	Т	P-value	Coef.	St.Err.	Т	P-value
Cash flow	0.248	0.142	1.75	(0.091)***	-0.063	0.083	-0.76	0.449
Q	0.023	0.017	1.36	0.184	0.009	0.007	1.20	0.233
Leverage	0.019	0.038	0.49	0.629	0.082	0.027	3.00	(0.003)*
managerial	0.013	0.007	2.00	(0.050)**	-0.039	0.012	-3.23	(0.001)*
optimism								
Optimism*Cash	-0.314	0.147	-2.14	(0.042)**	0.22	0.085	2.68	(0.008)*
flow								
Constant	-0.002	0.016	-0.12	0.905	0.027	0.014	1.90	0.059
Adjusted-R-		0.	113		0.197			
squared								
Obs.		1	.96			196		
Prob > F		0.0	0003		0.0001			
Firms		,	28			28		

Table 3: Empirical results of regression

Notes: *** indicates significance at 10%; ** indicates significance at 5%; * indicates significance at 1%. (Source: compiled from data processing by the authors).

In constrained firms, the empirical finding suggests that there is a positive and significant correlation between corporate investment and cash flow. At the 10% level, the correlation between investment and cash flow is (0.248). The same coefficient is corporate negatively associated with investment and is equal to (-0.063) and insignificant for unconstrained firms. Constrained firms exhibit greater investment cash flow sensitivity than unconstrained firms, which means they are more responsive to investment opportunities. This finding is consistent with Malmendier and Tate (2005); Lin et al. (2005).

Corporate investment depends on the existence of growth opportunities like Tobin's Q, which is a proxy used to measure a company's opportunities for growth. It is

higher for constrained firms compared to unconstrained firms (0.023 vs. 0.009). A higher value of Tobin's Q indicates higher growth opportunities. It's worth noting, however, that Tobin's Q isn't a trustworthy proxy as it is not statistically significant. This calls into question Tobin's Q's validity as a tool for measuring firms' growth opportunities.

Constrained firms have lower leverage compared to unconstrained firms (0.019 vs. 0.082) and this is not statistically significant in constrained firms but significant in unconstrained firms at 1%. Unconstrained corporations tend to use debt to raise both their investment and dividend payments, whereas constrained corporations must decide whether to allocate their cash flow to investment or dividend payments (<u>Maditinos</u> et al., 2019).

Optimism has a favorable impact on the level corporate investment. of Managerial optimism has the potential to boost investment levels. In constrained companies, there is a positive and significant association between corporate investment and managerial optimism. The connection between investment and managerial optimism is significant at the 5% level, indicating that an optimistic manager is more inclined to increase capital expenditure when the company is financially constrained. The relationship between investment and managerial optimism for unconstrained firms is negative and significant at the 1% level.

However, this coefficient, which relates company investment to manager optimism, should be evaluated with caution. The optimism effect may depend on other unnoticed factors. For financial constrained firms, it can have asymmetric impacts. Overconfidence among typical top executives has an impact on corporate investment, according to (Huang et al., 2011), since it contributes to the establishment of an flow investment cash sensitivity phenomenon.

The financial status of a company can alter the relationship between investment policy and managerial irrationality (<u>Heaton, 2002</u>; <u>Lin et al., 2005</u>; <u>Malmendier & Tate, 2005</u>; <u>Ben Mohamed et al., 2014</u>). The key question of our research is whether investment cash flow sensitivity is affected by managerial optimism. Apart from the agency and information asymmetry perspectives, managerial optimism also has an impact on investment–cash flow sensitivity. We see that the coefficient on the cash flow interaction term with the optimism dummy variable is negative and significant at the 5% level for constraint firms. For unconstrained firms, this coefficient is positive and significant at the 5% level.

When internal finance is available, managers will invest heavily, and when cash is scarce, they may turn down investment opportunities with a positive net present value. According to Heaton (2002), optimistic managers are supposed to have their own perspective on stock markets; they are always certain that the market undervalues their stock. If we go by this concept, external financing will be perceived as more expensive when compared to internal financing. This will result in investment cash flow sensitivity. As a result of this research, it is possible to conclude that the investment-cash flow sensitivity of firms with optimistic managers is greater in financially constrained firms. Because the impact of managerial optimism on the investment-cash flow sensitivity of Jordanian industrial and service firms listed on the ASE over the period from 2013 to 2019 is more pronounced in financially constrained firms.

NO	Hypotheses	Results
1	H1A: Managerial optimism has a significant impact on investment	H1A was
	decisions within financially constrained firms.	accepted
2	H1B: Managerial optimism has a significant impact on investment	H1B was
	decisions within financially constrained firms.	accepted
3	H2A: Managerial optimism has a significant impact on investment	H2A was
	decisions within financially constrained firms.	accepted

 Table 4. Summary of hypotheses testing results.

4	H2B: Managerial optimism has a significant impact on investment	H2B was
	decisions within financially unconstrained firms.	accepted

(Source: compiled from data processing by the authors).

5. Conclusion

The literature on the impact of managerial optimism on company decisions is rather scarce when compared to other areas of behavioral finance. This study looks into a key subject in behavioral corporate finance: how does managerial optimism influence investment decisions? This study proposes a measure of managerial optimism based on the insider stock transaction behavior of managers (directors' dealings).

This is the first study in Jordan to look into managerial optimism and its impact on company investment. The significance of this research lies in finding how managerial decision-making works within a company, how biased a manager is when making critical decisions about the company's future performance and success, and how managerial optimism affects corporate investment decision-making.

The study investigated whether managerial optimism had an effect on Jordanian firms' investment decisions listed in ASE. The study uses the KZ index to determine whether a firm is financially constrained or not and then regresses the investment (CAPEX) on the cash flow, the optimism measure, and the interaction of optimism and cash flow on the financially constrained firms and unconstrained firms to see if cash flow plays an important role in investment decisions for optimistic managers financially in constrained firms.

The study empirically analyzed the link between corporate investment and managerial optimism in financially constrained firms. The coefficient of investment to cash flow increases with managerial optimism. The study shows a strong positive relationship between the sensitivity of investment to cash flow and managerial optimism. The coefficient of the interaction term between optimism and cash flow is highly significant for all firms (financially constrained firms and financially unconstrained firms). That means that managerial optimism increases investment cash flow sensitivity for firms, and the study also finds that managerial optimism has more influence in financially constrained firms.

6. Reference:

- -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, 19(36), 11–18. DOI: http://dx.doi.org/10.1016/j.jefas.201 4.04.001
- Bouwman, Christa H.S., (2013). Managerial optimism and earnings smoothing, Journal of Banking & Finance, Elsevier, vol. 41(C), pages 283-303. DOI: <u>https://doi.org/10.1016/j.jbankfin.20</u> 13.12.019
- -Campbell, T. Colin & Gallmeyer, Michael & Johnson, Shane A. & Rutherford, Jessica & Stanley, Brooke W., (2011). CEO optimism and forced turnover. Journal of Financial Economics, Elsevier. Vol. 101(3), pages 695-712. <u>https://doi.org/10.1016/j.jfineco.201</u> <u>1.03.004</u>

- 4. -Chang, H. and Frank M. Song, 2013, Testing the Pecking Order Theory with Financial Constraints, European Financial Management
 - Association, Annual Meetings , June 26-29, 2013. DOI:10.2139/ssrn.2200847
- 5. -Elgebeily, Eman & Guermat, Cherif Vendrame. Vasco. & (2021). Managerial optimism and investment decision in the UK, Journal of **Experimental** Behavioral and **Finance**, Elsevier, vol. 31(C). https://doi.org/10.1016/j.jbef.2021.1 00519
- 6. -Fazzari, Steven, R. Glenn Hubbard, and Bruce C. Petersen (1987).
 Financing constraints and corporate investment. Brookings Papers on Economic Activity. Vol (1) pp. 141-206.

https://doi.org/10.2307/2534426

- 7. -Glaser, M., Philipp, S., and Martin W. (2008). Managerial Optimism and Corporate Investment: Is the CEO Alone Responsible for the Relation?. Working Paper, Universität Mannheim. <u>http://dx.doi.org/10.2139/ssrn.96764</u> <u>9</u>
- Heaton, J.B. (2002). Managerial Optimism and Corporate Finance. Financial Management. 31(2), 33-46.

http://dx.doi.org/10.2307/3666221

 -Huang, Wei & Jiang, Fuxiu & Liu, Zhibiao & Zhang, Min, (2011).
 Agency cost, top executives' overconfidence, and investment-cash flow sensitivity - Evidence from listed companies in China, Pacific-Basin Finance Journal, Elsevier, vol. 19(3), pages 261-277. Doi:pacfin:v:19:y:2011:i:3:p:261-277.

- 10. -Kaplan, S.N. and Zingales, L. (1997). Do Investment-Cash Flow Sensitivities Provide Useful Measures of Financing Constraints? Quarterly Journal of Economics, 112, 169-215. <u>https://doi.org/10.1162/0033553975</u>55163
- -Lamont, O., Polk, C., & Saaá-Requejo, J. (2001). Financial constraints and stock returns. The Review of Financial Studies. 14(2), 529-554.

https://doi.org/10.1093/rfs/14.2.529

 -Lin, Y. H., Hu, S. Y., and Chen, M. S. (2005). Managerial Optimism and Corporate Investment: Some Empirical Evidence from Taiwan. Pacific-Basin Finance Journal 13, p.523–546. <u>https://doi.org/10.1016/j.pacfin.2004</u>

.12.003

- 13. -Lin, Y. H., Hu, S. Y., and Chen, M. S. (2008). Testing Pecking Order Prediction from the Viewpoint of Managerial Optimism: Some Empirical Evidence from Taiwan.
 Pacific-Basin Finance Journal, 16 pp.160–181. DOI: RePEc:eee:pacfin:v:16:y:2008:i:1-2:p:160-181
- -Maditinos, D., Tsinani. A., Šević, Z., & Stankevičienė, J. (2019). Financially Constrained Firms: The Impact Of Managerial Optimism And Corporate Investment – The Case Of Greece. International Journal of Business and Economic Sciences Applied Research, Vol. 12, No.1, P. 39- 49. doi:10.25103/ijbesar.121.05

- 15. -Malmendier, U., and Tate, G. (2005a). CEO Overconfidence and Corporate Investment. Journal of Finance, 60: 2661–2700. https://doi.org/10.1111/j.1540-6261.2005.00813.x
- -Modigliani, F. and M. H. Miller (1958). The Cost of Capital, Corporation Finance and the Theory of Investment. The American Economic Review, p. 261–297. https://www.jstor.org/stable/180976
 6
- 17. -Neill, S., Pathak, R.D., Ribbens, B.A. et al. (2020). The influence of managerial optimism and self-regulation on learning and business growth expectations within an emerging economic context. Asia Pacific Journal of Management, Springer, vol. 37(1), pages 187-204. DOI: 10.1007/s10490-018-9612-x

- Ponikvar N, Kejžar Zajc K, Morec B,(2013). Determinants of financial constraints: The effect of financial crisis and heterogeneity across industries, Economic Research-Ekonomska Istraživanja. Volume (26). https://doi.org/10.1080/1331677X.2
- 19. -Schrand, C. M., & Zechman, S. L. (2012). Executive overconfidence and the slippery slope to financial misreporting. Journal of Accounting and economics, 53(1-2), 311-329. https://doi.org/10.1016/j.jacceco.201 1.09.001

013.11517639

20. -Whited, Toni M., and Guojun Wu, (2006). Financial Constraints Risk, Review of Financial Studies. 19, p.531–559. http://hdl.handle.net/10.1093/rfs/hhj 012



Figure 1: Mean cash flow/lagged asset

APPENDIX











Figure 5: Mean EBIT/Lagged asset (profitability) Figure 6: Mean Dividends payout ratio