

The Implications of Financial Flexibility on Firm's Investment Ability: Evidence from Egypt

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Abstract The aim of this paper is to examine the impact of financial flexibility, measured by low debt and excess cash dimensions on the investment ability of the Egyptian firms using a panel data set of 75 non-financial Egyptian listed corporations of EGX100 through 2007-2020. GMM results show that Egyptian firms that seek financial flexibility either by maintaining low debt or excess cash policy enhanced their investment ability, because the analysis shows a significant positive relationship between financial flexibility and future investments measured by the increase in capital expenditures. Robustness tests using firm specific characteristics and two macroeconomic factors (GDP and inflation rate) were conducted and confirmed the results that financially flexible firms can boost their future investments higher than non-financially flexible firms. By understanding how financial flexibility works in an emerging economy like Egypt, financial managers should intentionally consider preserving high cash level and maintain low debt level. This should enhance their ability of sustaining their growth, capturing future investments, and eventually enhancing firm's value. Investors should be inclined to invest in firms that pursue financial flexibility to build their wealth based on capital gains resulted from these high growth financially flexible firms. Financial institutions can design the convenient products such as low fees and better rates of loans to facilitate an ease access to their funds for financially flexible firms which are distinguished by preserving their debt capacity to finance their future promising projects.

Keywords: Financial flexibility, Excess cash, Low debt, Capital structure, Investment ability, Egypt.

JEL classification: G30, G31, G32

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Introduction

In the continuous attempt to maximize the owner's wealth or the value of the firm, the researchers of finance paid a lot of effort to develop theories enabling them to realize such an objective. Capital structure theories such as trade-off theory (TOT) and pecking order theory (POT) were developed to achieve such purpose. However, many studies e.g., Graham & Harvey (2001), Bancel & Mitto (2004), Bancel & Mitto (2011), De Jong *et al.* (2012), & Meier *et al.* (2013) among others provided evidence that financial managers tend to have debt levels below their debt capacity and/or have excess cash levels. Such financing behaviors contradict the traditional capital structure theories (i.e. TOT and POT) and motivated the researchers to raise the questions behind these financing decisions. Thus, financial flexibility (FF) was introduced to explain these proposed behaviors.

Graham & Harvey (2001) and Bancel & Mitto (2004) explained that FF mainly drives CFO's capital structure decisions and its considerations are of first order importance with respect to firm's financial policy decisions. For example, the survey by Graham & Harvey (2001) illustrated that 59% of CFOs in American firms reported that FF was the first most important debt policy factor. Later, when this survey was run by Bancel & Mitto (2004) and Brounen *et al.* (2004), they reached the same result as Graham & Harvey (2001).

Moreover, De Angelo & De Angelo (2007) and Gamba & Triantis (2008) added that CFOs were motivated to pursue FF to secure and restructure the firm's future external financing at low cost since financially flexible firms have the privilege to an easier access to capital markets. Therefore, FF can enhance firm's ability to capture future investment opportunities when they occur and not to forgo profitable ones.

Almeida *et al.* (2011) & Denis (2011) discussed that firms can construct an intertemporal dependence between current financing decisions and future investment decisions by following FF policy through shaping their capital structure, cash management and/ or payout policies.

Despite the importance of FF, yet the area of FF is still a growing field in developed countries and still in its early stages in emerging economies, thus empirical evidence in this context is still limited (Marchica & Mura, 2010; Rapp *et al.*, 2014; Mahmood *et al.*, 2021). Consequently, this study fills the gap in the research in emerging countries on identifying FF and its implications on Egyptian firm's investment ability.

Thus, the empirical focus of this study is twofold; *first to identify Egyptian firm's FF, second to investigate the impact of FF on investment ability of Egyptian listed firms.*

Hence, this study aims to contribute to better understanding of how firms can build up their FF from more than one dimension and the role of FF in improving firm's investment ability in an emerging country such as Egypt. And to the best of authors' knowledge, there have been few studies that cover FF and its impact on investments in Egypt. Consequently, the study provides an evidence to address the following questions:

- How can financial flexibility be identified in an Egyptian context?
- Does financial flexibility enhance the investment ability of Egyptian listed companies?

The rest of the paper is organized as follows: the following section reviews the relevant literature develops the hypotheses. Data and methodology are presented in section 3. Empirical results are reported in section 4 while section 5 reports the main conclusions.

Literature review

The finance literature has presented the most two competing capital structure theories of financing decisions. TOT and POT have frequently been pitted against one another to determine which theory provides the best justification for capital structure decisions.

TOT postulates that companies can have an optimal structure of debt as they can trade off the benefits and costs of debt associated with tax advantage of debt and bankruptcy penalties (Kraus & Litzenberger, 1973 and Scott, 1976). On one hand, the primary benefits of debt are tax deductibility through interest payments (Modigliani & Miller, 1963 and Kraus & Litzenberger, 1973) and reduction of agency costs of free cash flows (Jensen, 1986). On the other hand, the chief costs of debt include potential bankruptcy and financial distress costs, in addition to agency costs associated with conflicts between debt holders and stockholders (Modigliani & Miller 1963; Kraus & Litzenberger, 1973; & Myers, 1977).

However, later studies documented the opposite of TOT assumptions. For instance, DeAngelo & DeAngelo (2007) highlighted how the trade-off theory didn't explain why profitable firms have low debt, thus forego benefits of interest tax shields. In a similar vein, Graham (2000) and Byoun (2007) documented that large profitable firms with less distress costs used their debt conservatively to finance their future business expansions and investment opportunities and to absorb economic shocks. Such results raised the question of validity of TOT.

The other aspect to capital structure theories is POT suggested by Myers (1984) and Myers & Majluf (1984). Firm's managers have inside information about firm's value and investment opportunities that potential outside investors do not have. Such inside information can create information asymmetry problems that push outside investors to place a discount on new security issuances. This can lead managers to refuse issuing undervalued stocks; consequently, they pass up positive net present value projects (Myers & Majluf, 1984). Therefore, Myers (1984) and Myers & Majluf (1984) assumed that equity issues are costly, consequently, in order to reduce costs associated with this asymmetry, firms finance their investments first with internal funds, then debt, then convertible debt, and finally as a last financing resort they can issue equity. However, studies e.g. Frank & Goyal (2003) and Huang & Ritter (2009) among other studies reported opposite findings to the pecking order theory which is assumed to be best adopted among small and high growth companies that are expected to have large information asymmetry problems. Based on the results reported by Frank & Goyal (2003), small and high-growth American companies didn't follow the pecking order theory assumptions when it came to financing decisions.

Moreover, their results on large firms matched with the results of the survey conducted by Graham and Harvey (2001). They found that large and dividend paying firms as well behaved in accordance to pecking order financing hierarchy despite of their less information asymmetry problems. Fama & French (2005) and Huang & Ritter (2009) studies were consistent with Frank & Goyal (2003) from the perspective that equity issues were dominant and common place.

Seemingly, TOT and POT have some pitfalls which make them incapable of explaining the financing behaviour of some companies such as the prevalence of profitable firms with low debt as well as the observed accumulated cash balances adopted by firms (Byoun, 2011; Meier *et al.*, 2013; Bessler *et al.*, 2013).

The phenomenon of having less debt or accumulating high cash balances has attracted the attention of many scholars e.g., Bancel & Mittoo (2011), De Jong *et al.*, (2012), and Meier *et al.*, (2013) among others. As such behavior could not be explained or justified by traditional capital structure theories e.g., Pecking Order and Trade-off. Thus, the term FF has evolved. De Angelo & De Angelo (2007, p.2) mentioned that "*financial flexibility is the critical missing link for an empirically viable theory of capital structure.*". Almeida *et al.*, (2011) defined FF defined as the ability of companies to seize future investment opportunities, when asymmetric information and contracting problems might force them to sacrifice profitable growth opportunities. Additionally, FF represents the ability of the firm to respond in a timely and value-maximizing manner to unanticipated negative shocks to its cash flows and to take advantage of positive shocks, when

assets prices are relatively low to its investment opportunity set (Bancel & Mittoo, 2011; Ang & Smedema, 2011 and Denis, 2011).

Financial flexibility dimensions

Many studies have provided different dimensions and measures of FF. Marchica & Mura (2010), DeJong *et al.* (2012), Yung *et al.* (2015), Ferrando *et al.* (2017), Setianto & Kusumaputra (2017), Minton & Wruck (2001), Dang (2013), Kangarlouei *et al.* (2014), Mahmood *et al.*, (2021), and Machokoto *et al.* (2021) among others implemented quite different techniques to identify financially flexible firms based on unused debt capacity of these firms. Despite the fact that these studies provided important insights of unused debt capacity to capture FF, however, the idea of focusing on debt conservative policy without considering the cash conservative policy as well, and vice versa can be misleading. Both decisions are strongly interdependent in the sense that when one policy variable changes, it necessitates other policy variable to change likewise (Arslan-Ayaydin *et al.*, 2014). Therefore, as mentioned by Iona *et al.*, (2004), FF is better viewed with regard to debt conservative policy i.e. debt flexibility (DF) and cash conservative policy i.e. cash flexibility (CF). Consequently, in this study, the researchers use two dimensions which are DF as low debt ratio below sample median and CF as high cash ratio above sample median to define FF to propose a definition of FF that is consistent with data availability in Egypt.

Financial flexibility and firm's investment ability

There are plenty of studies examined the investment abilities of financially flexible firms and how they can seize future investment opportunities. Marchica & Mura (2010) studied the impact of FF on UK listed firms' investment activities. They found that financially flexible firms, as measured by their spare debt capacity for at least three consecutive years, were able to seize future investment opportunities and significantly increase their capital expenditures, following debt conservative policy for three years, by around 37%. This provides strong evidence that companies forgo borrowing today to enhance their ability to seize better investment opportunities in the future. De Jong *et al.* (2012) documented that financially flexible US firms preserved their debt capacity during normal unconstrained periods to issue debt in periods that a typical firm can have trouble getting external financing for investments. Thus, not only did FF have significant positive influence on US firm's future investments but also it was capable of reducing investment distortions in constrained periods.

In a similar vein, Ferrando *et al.* (2017) found a significant positive impact of FF on investment abilities of euro zone firms. They reported that financially flexible firms had enough spare borrowing power to raise external funds, and to invest more in the years following the conservative financial policy.

Moreover, Arslan-Ayaydin *et al.* (2014) showed that firms can pursue FF primarily through conservative leverage policy, since they found leverage was the key driver of investment behavior during crisis periods while cash holdings were more likely to be held as a buffer against financial distress and bankruptcy. They reported that financially flexible firms had greater capacity to engage in high investment activities and pursued growth opportunities in the face of exogenous earnings shocks during the crisis of 1997–1998. In a similar vein, Yung *et al.* (2015) studied the value of corporate FF in 33 emerging countries, because these countries provided an interesting environment for understanding the benefits of FF. External financing decisions are major challenges for firms in emerging countries since volatile capital flows limit the supply of capital and bank credit in emerging economies, therefore, the demand for FF is important in corporate financing decisions in developing countries (Yung *et al.*, 2015). They utilized unused debt capacity as a measure of FF, and found that FF in emerging countries can enhance firm's investment abilities.

Furthermore, Ma & Jin (2016) and Islam *et al.* (2020) covered the relationship between FF and investment ability in Chinese listed firms. Both confirmed the significant positive impact of FF on investment ability of Chinese listed companies as financially flexible Chinese firms placed a strong emphasis on investment expansion for better firm's performance. This significant relationship was due to the fact that conservative debt policy permitted businesses to borrow additional capital without bearing high levels of risk, which allowed them to spend more on their investments and to execute more significant investment policies by overcoming over-investment and underinvestment problems, thus reduce investment distortions during constrained periods (Ma & Jin, 2016; & Islam *et al.*, 2020). FF has the strength of additional borrowing capacity with an ease access to capital markets even during hard times when external financing is challenging so that financially flexible firms can exploit future lucrative projects (Islam *et al.*, 2020). Such strength comes from firm's concern to sacrifice the benefits of borrowings today to build up their debt capacity for future growth opportunities (e.g. Marchica & Mura, 2010; & Islam *et al.*, 2020).

The previous review shows that financing decisions have a direct impact on investment decisions and that choosing the right capital structure results in better investment decisions. Therefore, based on literature review and considering that most of these studies examined the impact of FF on firm's investment ability in developed economies, and considered only one dimension of FF. This paper aims at investigating the impact of DF and CF on the investment ability of Egyptian listed firms as an example of an emerging economy by testing the following hypotheses

H1: There is a significant positive relationship between FF (i.e. in terms of DF) and firm's investments in Egypt.

H2: There is a significant positive relationship between FF (i.e. in terms of CF) and firm's investments in Egypt.

Methodology

Sample and data collection

The research population includes all listed companies on the Egyptian Stock Exchange (EGX) during the period 2007- 2020. The reason for this long time span is to assure the recurrence of listed firms' adoption of FF and it is not "one time" financing policy, but rather a repeatedly financing policy that is intentionally followed by these firms. According to EGX report in 2020, the total listed firms were 215 firms. The researchers focused on the highest performing and the most active firms listed on EGX, thus, the study sample represents EGX 100. Financial institutions were excluded because of the uniqueness of their capital structure. Firms with missing data were also excluded. Moreover, firms with less than two years of data observations were also excluded to comply with the panel regression requirements (Stock & Watson, 2011). Therefore, this results in a final sample includes 736 firm-year observations for CF and 741 firm-year observations for DF representing 75 non-financial listed firms.

The data required to identify FF is secondary data. Financial statements were collected from Thomson Reuters Eikon database. Data required to calculate market to book ratio (MTB) ratio was obtained from Egypt for Information and Dissemination (EGID).

Variables of the study

Dependent variable

Egyptian firm's investment ability is the dependent variable, which is the ability of the firm to increase investments in the period follows FF i.e. FF is observed prior to occurrence of investment activity (see for example Marchica & Mura (2010), Yung *et al.*, (2015) and Ferrando *et al.*, (2017)). Egyptian firm's investment ability is resembled in the increase in firm's capital expenditures and its ratio is measured as the annual change in net fixed assets plus depreciation to total assets (Kusnadi & Wei, 2011; Maheshwari & Rao, 2017; & Yasmin & Rashid, 2019)

Independent variables

The two dimensions of FF, namely, DF and CF are utilized in this paper. Mahmood *et al.* (2021) measured corporate DF as dummy variable that has value of 1 if firm had debt ratio below median industry ratio, however the researchers used sample median instead as Panda *et al.* (2023). Thus, DF was measured as a dummy variable (lagged one year) that has value of 1 if firm's debt ratio is below sample median and 0 otherwise. Following Panda *et al.* (2023), CF is a dummy variable (lagged one year) that has value of 1 if firm's cash holdings ratio is above sample median and 0 otherwise. Additionally, as a robustness check, to neutralize the effect of other explanatory variables affect firm's investment ability, the researchers add control variables at the firm level represented in the lagged investment value, firm's size, profitability and growth opportunities, and at the economic level represented in the annual growth rate of the Egyptian gross domestic product (GDP) and the Egyptian annual inflation rate. These variables were previously mentioned in some studies as explanatory variables of firm's investments and also, as control variables as well in other studies. See for example Marchica & Mura (2010), Yung *et al.* (2015), Ferrando *et al.* (2017), Islam *et al.* (2020), and Mahmood *et al.* (2022). Measurement of variables are displayed in table 1

Table (1) Measurement of variables

Variables	Calculation	Reference
Dependent Variables		
<i>Investment_t</i> (CapExp.)	The ratio of capital expenditures (annual change in net fixed assets plus depreciation) to total assets.	Kusnadi & Wei (2011), Maheshwari & Rao (2017), Yasmin & Rashid(2019)
Independent Variables		
<i>Cash Flexibility_{t-1}</i>	Dummy variable that takes the value of 1 when firm's corporate cash holdings ⁴ ratio (cash & short-term investments/total assets) is higher than the sample median and zero otherwise.	Panda <i>et al.</i> (2023)
<i>Debt Flexibility_{t-1}</i>	Dummy variable that takes the value of 1 when firm's total debt ratio (total debt/total assets) is lower than the sample median and zero otherwise.	Mahmood <i>et al.</i> (2021), Panda <i>et al.</i> (2023)

⁴ According to Thomson Reuters database, cash & short-term investments include cash, cash & equivalents, and short-term investments.

Control variables

<i>Investment_{t-1}</i>	The ratio of capital expenditures (annual change in net fixed assets plus depreciation) to total assets.	Kusnadi & Wei (2011), Maheshwari & Rao (2017), Yasmin & Rashid(2019)
<i>Size</i>	The natural logarithm of total assets.	Frank & Goyal (2009), Acaravci (2015), Alipour <i>et al.</i> (2015)
<i>Profitability</i>	Net profits to total assets.	Sheikh & Wang (2011), Handoo & Sharma (2014), Acaravci (2015)
<i>Growth Opportunity</i>	The ratio of book value of total assets minus the book value of equity plus the market value of equity (the closing share price times the number of outstanding shares) to book value of total assets.	Adam & Goyal (2008), Frank & Goyal (2009), Maheshwari & Rao (2017)
<i>GDP</i>	The change in GDP in current market prices from one period to the next	Buvanendra <i>et al.</i> (2016), Mahmood <i>et al.</i> (2021)
<i>Inflation</i>	The annual inflation rate of growth in the CPI	Buvanendra <i>et al.</i> (2016), Mahmood <i>et al.</i> (2021)

Empirical models

Two dynamic generalized method of moments (GMM) regression models were utilized to test the influence of both dimensions of FF (CF and DF) on investment ability of Egyptian listed firms.

$$Investment_{i,t} = \alpha + \beta 1 Cash\ Flexibility_{i,t-1} + Firm\ fixed-effects + Year\ fixed-effects + Error_{i,t} \tag{1}$$

$$Investment_{i,t} = \alpha + \beta 1 Debt\ Flexibility_{i,t-1} + Firm\ fixed-effects + Year\ fixed-effects + Error_{i,t} \tag{2}$$

To confirm the veracity of the study hypotheses, we applied the panel data methodology. According to Hsiao (2003) and Baltagi (2005), the panel data analysis provides many benefits such as lower levels of collinearity between explanatory variables, more degrees of freedom, large levels of data points, and more controlling for heterogeneity. Moreover, in order to counter statistical issues as heteroskedasticity, auto correlation, and endogeneity, the researchers employed GMM estimator with firm and year fixed-effects similar to Marchica & Mura (2010), Ferrando *et al.* (2017) and Islam *et al.* (2020). Furthermore, Arellano–Bond test of serial correlation and the Sargan statistics of over identifying restrictions were applied to ensure the validity of GMM technique.

Results and discussion

Cash flexibility and Investment ability:

Table 2 reports the impact of lagged CF on firms' investment levels. The results show a significant positive impact of cash flexibility(t-1) on firm's investments (at 1% level of significance). This means that cash flexible firms that preserve high cash levels above sample median, are more likely to boost their future investments. Investments are 0.005 times higher for cash flexible firms than investments of firms with no CF. This implies that cash flexible firms are keen on accumulating their cash holdings for the sake of seizing foreseeable investments so as not to be forced to pass on promising ones.

To test the robustness of the obtained results, a set of control variables in terms of firm-specific factors i.e. lagged capital expenditures, profitability, size, and growth opportunities and macroeconomic factors which are GDP and inflation rate were considered in model 2. The reported results not only confirm the positive relationship between lagged CF and investments, which remained significant at the 1% level, but also, show that investments are 0.013 times higher for cash flexible firms than investments of firms with no CF.

Table (2) Cash Flexibility and Investment

	CF and Investment (model 1)	CF and Investment (model 2)
Cash Flexibility _(t-1)	0.005 (24.636)***	0.013 (25.994)***
Capital Expenditures _(t-1)	_____	0.003 (1.156)
Size	_____	0.002 (0.788)
Profitability	_____	0.080 (11.451)***
Growth Opportunity	_____	0.000 (0.649)
GDP	_____	0.006 (8.424)***
Inflation	_____	0.000 (2.753)***
Firm fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Sargan statistics (P-value)	60.857 (0.444)	64.376 (0.181)
Arellano-Bond AR(1) (P-value)	-2.993 (0.001)	-3.299 (0.001)
Arellano-Bond AR(2) (P-value)	-0.958 (0.338)	-0.698 (0.485)

Notes: T-values are in parentheses below coefficients.

***, **, * reflects significance at 0.01, 0.05 and 0.10 levels respectively.

Debt flexibility and Investment ability

The results of the impact of lagged DF on firm's investment levels are reported in table III. The reported results show that lagged DF has significant positive influence on investment levels (at 1% level of significance). This means debt flexible firms, same as cash flexible firms, are capable of increasing their future investments by preserving debt capacity to use for promising projects when they come due. Investments are 0.004 times higher for debt flexible firms than investments of firms with no DF.

Table (3) Debt Flexibility and Investment

	DF and Investment (model 3)	DF Investment (model 4)
Debt Flexibility _(t-1)	0.004 (8.280)***	0.008 (10.762)***
Capital Expenditures _(t-1)	_____	-0.114 (-31.467)***
Size	_____	0.025 (8.988)***
Profitability	_____	0.097 (11.386)***
Growth Opportunity	_____	0.006 (8.344)***
GDP	_____	0.003 (3.608)***
Inflation	_____	-0.005 (-7.605)***
Firm fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Sargan statistics	47.855	67.927
(P-value)	(0.599)	(0.113)
Arellano-Bond AR(1)	-3.182	-2.855
(P-value)	(0.001)	(0.004)
Arellano-Bond AR(2)	-1.173	-1.243
(P-value)	(0.241)	(0.214)

Notes: T-values are in parentheses below coefficients.

***, **, * reflects significance at 0.01, 0.05 and 0.10 levels respectively.

As for the robustness check's results (model 4) on the relationship between DF and firm's investment levels, confirms the significant relationship, at the 1% level. Moreover, the results show that investments are 0.008 times for firms pursuing DF than investments of firms with no DF.

Thus, as observed, the robustness check demonstrates that the addition of control variables to the basic model confirmed the level of significance of the relationship between FFand firm's investment ability in Egypt.

Conclusions

This study examined the impact of FF on investment ability of the Egyptian firms. CF and DF were used in this study as two dimensions of FF. Each dimension was deployed separately to test its influence on firm's investments.

The results revealed the significant positive influence both CF and DF had on firm's investment ability (both at 1% level of significance). This illustrates that Egyptian firms that pursued FF can boost their investments higher than those firms that are non-FF. Even with the inclusion of control variables to the model as robustness check, the results confirmed that FF enhanced the level of investments of Egyptian listed firms more than firms that do not pursue FF.

Studies such as Marchica & Mura (2010), De Jong *et al.* (2012), Ferrando *et al.* (2017) reported the positive impact of FF (in terms of debt conservative policy) had on firm's future investments. Thus, in terms of DF, the results of the current study are consistent with the conclusion of these previous studies. However, these papers focused on the debt side (unused debt capacity) of FF and its impact on investments, while this study includes cash side of FF as well and examined its impact on investments.

On one hand, the significant positive impact of CF on future investments reflected the fact that Egyptian listed firms rely on internal financing to fund their future investments. This finding confirmed Mahmood *et al.* (2022) interpretation as investments of financially flexible firms can count on internal funds. In this sense, the reliance of investments to high cash levels on one side contradicted the results of Marchica & Mura (2010), De Jong *et al.* (2012), Ferrando *et al.* (2017) who reported less investment sensitivity to internal fund in FF firms. This contradiction shows the difference of the Egyptian case, and confirms the need for further investigation.

On the other hand, this study also showed the significant positive association between DF and future investments. This means Egyptian listed firms seek DF so that they can have future ease access to external financing when needed to fund future investments.

Such results illustrate the importance of including cash side along with debt side as dimensions of FF to reflect a better view of impact of FF on investments, unlike previous mentioned papers that focused only on unused debt capacity as one dimension of FF.

Study implications

After studying the positive impact FF had on Egyptian listed firm's investments and with regard to capital structure decisions, financial managers should intentionally consider preserving firm's cash levels and debt capacity to build FF, as this may lead to more growth and better ability to capture future investments, which eventually contributes to enhancing firm's value. This can boost the interest of investors to invest in firms that pursue FF, so that they can build their wealth based on capital gains they earn from these high growth financially flexible firms. As for financial institutions, they can provide facilities and ease access to their funds for FF firms to finance their promising projects, as FF firms are distinguished by preserving their debt capacity for future capital needs so that it allows them for more debt when it's time to raise fund for promising investments. For instance, restrictions such as administrative fees can become inconvenience. Financial institutions can have streamlined process to offer their services such as loans and they can design the right products such as low fees and better rates of loans that are convenient for firms pursue FF.

Study limitations

Despite the above-mentioned conclusions, yet this study has a number of limitations that could drive future research. First, the current study's focus is on EGX100 during the time period 2007-2020. Second, the dimensions of FF covered in this study are limited to high cash holdings levels and low debt levels without referring to any other measure of debt or cash or even without referring to any equity issuances. And finally, the study focused exclusively on the relationship between FF and investment ability, without further test for the contribution of other internal or external factors or without knocking on the implications of FF on investments during negative economic shocks or firm's earnings shortfalls.

Future studies

In the light of the above mentioned limitations, future studies can be conducted for more understanding for role of FF and to overcome some of the study limitations. Future research can consider the impact of country-specific factors along with firm characteristics on FF; adding corporate governance as a mediator on the relationship between FF and firm's investment levels, expanding the scope of the study to include the MENA region; and investigating the role of FF in avoiding investment distortions.

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