Financial Constraints and Cost of Equity: Empirical Study of Shariah Compliant Firms in Indonesia

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Abstract

This study is to investigate the relationship between financial characteristics and the cost of equity capital from sharia-based companies, which tend to be financially constrained. Using 276 observations, the results of this study indicate that financial constraints which are proxied by free cash flow have a role in influencing the cost of equity capital. This study also builds an indirect relationship of free cash flow and capital costs by proposing investment efficiency as a mediator variable. By using the causal step approach from Baron and Kenny, the test results show that investment efficiency mediates the effect of free cash flow on the cost of equity capital with an indirect effect that is stronger than the direct effect. This study also found evidence that leverage has no role in strengthening the effect of free cash flow on the cost of equity capital.

Keywords: free cash flow, investment efficiency, cost of equity, leverage, shariah compliant firms

1. Introduction

The development of sharia-based financial transactions in Indonesia is inseparable from efforts to achieve development goals, the growth and development of the sharia financial industry is also motivated by high demand for sharia-based financial products from a large number of Muslims, which are not only in Indonesia but in Indonesia all over the world, including non-Muslims, are motivated to find replacement asset classes as portfolio alternatives to maintain returns and minimize risk (Saiti et al., 2014) due to the shaking that often occurs in the conventional financial industry. With its foundation based on the principles of the Mu'amalat transaction (Albaity and Ahmad, 2008) or bound by religious values (Ghoul and Karam, 2007), which is limited to halal securities and annulling illicit companies or gharar (Derigs and Marzban, 2008), the sharia financial transactions fall into the category of ethical investment (Albaity and Ahmad, 2008). The ethical focus of these sharia products adds to the attractiveness of investors (El Qorchi, 2005).

As part of ethical investment (Hassan and Girard, 2010; Adams and Ahmed, 2013), in recent years Islamic securities or known as shari'ah-compliant investments, have emerged as new investment strategies for investor (Lyn and Zychowicz, 2010). As for companies, listing as Islamic shares in addition to financial gain is also an effort to apply business ethics and promote social values. Specifically, sharia-based companies are characterized by certain financial attributes, one of which is a low amount of cash, so it can be categorized as a company that has financial constraints. These limits differ between country indices. The Dow Jones Islamic Index (DJII) sets the ratio of cash and interest-bearing securities to market capitalization to not more than 33%. The Malaysian Stock Exchange (KLSESI) also limits the cash to total asset ratio to a maximum of 33%. Whereas in Indonesia, the Financial Services Authority (OJK) does not set specific limits on cash holdings. In the absence of these provisions, researchers intend and are interested in exploring free cash flow of Islamic companies with a low level of cash ownership (maximum retained free cash flow ratio of 33%), and test its effect on the cost of equity capital. Previous research found evidence that cash restrictions have an important effect on the use of free cash flow and concluded that low cash levels were able to encourage the use of cash solely for the purpose of potential growth of the company (Siddiqui, 2007). Meanwhile, other studies show that low cash rates from Islamic companies limit managerial manipulation of free cash flow (Guizani, 2017). Restrictions on cash holdings help companies to make efficient investment decisions because they restrict companies from storing excess cash that managers can invest for personal gain (Claessens et al., 2000), thus leading to a reduction in the severity of agency conflicts because managers tend to behave less opportunistically

(Katper et al., 2015). Theoretically, reducing agency conflict will reduce the level of profit implied by investors or the cost of equity capital of a company.

In addition to limiting cash holdings, low leverage is a fundamental requirement of sharia status. Sharia scholars suggest that the maximum debt that can be received against total equity ranges from 30-40 percent (Derigs and Marzban, 2008). Meanwhile, other literature suggests that total outstanding debt cannot exceed one third of capital or market capitalization (Hussein and Omran, 2005). In Indonesia, the Indonesian Financial Services Authority (OJK) regulations stipulate a debt equity ratio (DER) of no more than 45 percent. This financial ratio criterion is the only screening in the Islamic capital market in Indonesia. Previous empirical studies have stated that with this threshold, shari'ah stocks are considered less risky (Pok, 2012; Saiti et al., 2014), thereby reducing the possibility of defaults in debt payments (Pok, 2012).

This study seeks to investigate the effect of free cash flow on the cost of equity capital in shariah compliance companies in Indonesia, especially with low free cash flow ownership, which as far as researchers' knowledge has not been conducted with the same focus and object of research. Previous studies have focused more on the role of free cash flow as financial performance and flexibility and relates it to investment or firm value. Second, this study also establishes an indirect relationship between free cash flow and the cost of equity capital. Therefore, this study also investigates the effect of free cash flow on the cost of equity capital which is mediated by investment efficiency. This study predicts that free cash flow increases investment efficiency and in the next stage high investment efficiency reduces the cost of equity capital. Third, with its main requirements, namely low leverage, this study aims to look at the role of leverage in the relationship of free cash flow with the cost of equity capital. In other words, leverage moderates the relationship of free cash flow to the cost of equity capital. Therefore, this research is specifically to analyze the effect of free cash flow on the cost of equity capital, the effect of low free cash flow rates on investment efficiency, the effect of investment efficiency on lower equity costs. In addition, this study also analyzes the mediating effect of investment efficiency in the relationship between free cash flow on the cost of equity capital and to investigate the role of leverage on free cash flow in influencing the cost of equity capital.

The results of this study contribute to the expansion of corporate governance literature. In this study, researchers used the investment efficiency variable as a representation of corporate governance, where most of the previous studies used internal and external corporate governance variables as a control and monitoring mechanism. Second, this study explores the effect of free cash flow on the cost of equity capital with sharia-based company objects, which have special financial characteristics. Thus, this study contributes to agency theory, and adds evidence to previous research (Siddiqui, 2007; Guizani, 2017). Third, this study builds a causal relationship between free cash flow, investment efficiency, and the cost of equity capital, and also proposes moderation in the relationship of free cash flow and the cost of equity capital, thereby expanding the financial constraints of literature in greater depth. Third, in Indonesia companies with sharia compliance are growing rapidly, but very few studies have explored the characteristics of sharia-based companies, specifically related to the cost of equity capital, so this research adds research on firm characteristics and expand sharia financial studies.

2. Literature Review and Hypothesis Development

From a theoretical framework, there are at least 2 (two) approaches that can explain the relationship between free cash flow and the cost of equity capital. The theoretical framework of pecking order theory (Myers and Majluf, 1984) states that financial friction results in limited or can prevent companies from attracting funding through external sources. This situation can be influenced by various factors, such as taxation, information asymmetry (between lenders and borrowers and / or between managers and shareholders), and transaction costs (Rashid and Jabeen, 2018). Consequently, external funding sources become more expensive or unprofitable, so that in such situations the value of financial flexibility increases or becomes important. With its attributes as a source of low-cost funds, the availability of free cash flow as a proxy for financial flexibility (Wu et al., 2016) enables companies to avoid transaction costs, both equity costs and debt costs (Myers, 1984; Myers and Majluf, 1984). Transaction costs motive theory from Acharya et al. (2007) stated that one of the motivations of companies is holding cash to avoid transaction costs arising from debt withdrawals and issuance of equity when investment opportunities are available. This drive can have an impact on the reduced cost of capital for a company.

From a different perspective, the relationship between free cash flow and the cost of equity capital can also be explained through agency theory. The free cash flow hypothesis (Jensen, 1986) which postulates that companies with low free cash flow characteristics tend not to be affected by high agency costs arising from managerial abuse of free cash flow. As a result, companies have lower levels of agency conflict. Reducing agency conflict will reduce the level of profit implied by investors or the cost of equity capital of the company. In addition, restrictions on cash

ownership will also affect earnings management that can be done by managerial (Farooq and AbdelBari, 2015; Nekhili et al., 2016). Companies with limited cash holdings tend to adopt conservative or non-aggressive accounting procedures. Therefore, investors can obtain quality and relevant information. The quality of the information can reduce information asymmetry so that it has a negative impact or can minimize the cost of equity capital of the company. Meanwhile the perspective of entrenchment theory provides insight, profit manipulation or information is a manifestation of entrenchment management. As a result, the company's capital costs will increase (Dakhlaoui et al., 2017). Based on the literature and empirical findings above, it can be stated that there is a causal relationship between free cash flow and the cost of equity capital. Thus, the following hypothesis is as follows:

H1: There is a significant negative relationship between free cash flow and the cost of equity capital.

Financial flexibility is the company's ability to gather financial resources to deal with uncertainty in the future (Byoun, 2011) and reflects the ability of the company's internal resources to take advantage of investment opportunities (Mello and Parsons, 2000), especially in conditions of market friction. Pecking order theory (Myers and Majluf, 1984) provides the view that the occurrence of information asymmetry in the market results in companies choosing investment funding in the order of risk. Internal funds as a source of low-risk funds become a priority for investment financing (capital expenditure), and then use external financing if there is a shortage, by attracting debt first before issuing equity (Myers, 1984; Myers and Majluf, 1984). This view is consistent with market equilibrium theory (Richardson, 2006) which states that market friction supports a positive relationship between corporate investment activities and internal cash flow.

Free cash flow is an important concept in value-based management. As an internal financing tool, free cash flow provides flexibility for companies in financial decisions. Companies that are financially flexible or have high cash yield better investment levels compared to less flexible companies (Arslan-Ayaydin et al., 2014; Setianto and Kusumaputra, 2017). The same empirical results were also found by previous studies which proved that higher cash holdings provide a greater possibility for companies implementing projects that increase value, which shows greater financial flexibility (Chan and Chen, 1991; Fama and French, 1992). Conceptually, investment efficiency is defined as the state / ability of companies to invest in all projects that have a positive NPV (net present value) (Biddle et al., 2009; Gomariz and Ballesta, 2014). Previous literature has argued, there are various factors that effectively influence investment opportunities (positive NPV). Penrose and Penrose (2009) argue that although investment opportunities are influenced by external conditions, internal factors are the main determinants that enable companies to invest efficiently. Similarly, Keynes (1939) states that companies that have liquid assets are companies that have the ability to carry out valuable projects, when these opportunities arise, especially when access to capital becomes difficult. Myers (1977) also held that holding more cash allowed companies to undertake profitable projects without using expensive external financing or reducing dividend payments. Based on the literature and empirical findings above, it can be stated that there is a causal relationship between free cash flow and investment efficiency. Thus, the following hypothesis is as follows:

H2: There is a significant positive relationship between free cash flow and investment efficiency.

In competitive or imperfect markets, corporate investment tends to be limited by the availability of internal financing because of asymmetric information (between insiders and outsiders) and agency problems (between managers and shareholders and between controlling shareholders and minority investors). Such a situation significantly influences investment decisions (Myers and Majluf, 1984; Jensen, 1986) or results in corporate investment not always being in line with net principles present value (NPV) (Guariglia and Yang, 2016). Conceptually, investment is called inefficient if it deviates (positive and negative) from the expected or predicted level of investment (Biddle et al., 2009; Cheng et al., 2013). Positive deviations from the expected level (higher than the expected level) are considered overinvestments, and negative deviations from the predicted level (lower than the predicted level) are considered as underinvestments. Investment rate deviations (positive and negative) result from information asymmetry and agency conflict. Previous literature and empirical studies state that at a high level of information asymmetry and agency risk, investors will generally demand higher returns to cover default risks and monitoring costs (Stulz, 1999; Chen et al., 2009). Conversely, the cost of equity capital will be reduced if the company invests efficiently (Pindado and De La Torre, 2009) or at an estimated level, because investment efficiency is a consequence of low levels of information asymmetry and agency conflict (Cheng et al., 2013; Gomariz and Ballesta, 2014), thus impacting the low cost of equity capital (Majeed et al., 2018).

The company implements various governance mechanisms aimed at reducing managerial opportunism (agency risk) and information risk. Existing literature shows that governance mechanisms that reduce risk can reduce the cost of equity capital (Chen et al., 2009). Besides generally being able to reduce (He et al., 2013) and have low equity

funding costs (Pae and Choi, 2011), companies with good governance can also reduce the risk of investment inefficiency (Guedhami and Mishra, 2009). Therefore, investment efficiency can be viewed as a representation of governance mechanisms (Majeed et al., 2018). Previous literature (Modigliani and Miller, 1958) assumed that the investment decisions of the company were solely dependent on free cash flow. MM's proposition is in line with empirical studies which state that ownership of free cash flow leads to increased investment (Yeo, 2018), so that greater levels of investment efficiency lead to a reduction in the cost of equity capital (Majeed et al., 2018). Meanwhile, the perspective of signaling theory (Verrecchia, 2001) and agency theory (Barako et al., 2006) state that providing general information or specific signals is a solution that can overcome a number of problems that occur in the market. This information, one of which, can be in the form of investment decisions. The stock market usually views an increase in company investment as a positive signal, and this leads to a higher valuation for the company (Ye and Yuan, 2008). Based on the theoretical framework and empirical findings, it can be concluded that investment efficiency is an investment decision on a positive NPV project, so researchers argue that investment efficiency contains an information signal that can affect the cost of equity capital. On the other hand, free cash flow as a determinant of financial flexibility can also be related to investment efficiency (Shleifer and Vishny, 1997), including companies with low cash levels (Guizani, 2017). Therefore, it can be concluded, there is a causal relationship between free cash flow, investment efficiency, and the cost of equity capital. Free cash flow can increase a company's ability to invest efficiently, and in the next stage the cost of equity capital can decrease at a high level of investment efficiency. Based on the description above, hypotheses can be arranged as follow:

H3: There is a significant negative relationship between investment efficiency and the cost of equity capital

H4: There is a mediating effect of investment efficiency in the relationship of free cash flow to the cost of equity capital

Debt financing raises financial leverage for companies and is very sensitive to company solvency. If the company is unable to fulfill its obligations, it will lead the company to bankruptcy. Therefore, financial leverage is a source of credit risk for companies. Conversely, companies with low leverage ratios are seen as having a low risk of bankruptcy (Jensen, 1986). From an investor perspective, low leverage is a positive investment signal, so the market will set a lower level of required profit (required rate of return) (Derigs and Marzban, 2008). Therefore, a low leverage ratio is a determinant of the company's cost of equity (Kouser et al., 2016). Meanwhile, another view states, the cost of equity capital contains a financial risk premium that is positively related to leverage (Modigliani and Miller, 1958; Modigliani and Miller, 1961). The proposition was tested by other researchers and found that the implied equity cost of capital as a proxy for the cost of equity capital increases with leverage (Easton finding indicates that the higher the leverage, the higher the cost of equity capital. With the same results, using the earnings-based valuation model found evidence of leverage is positively related to the cost of equity capital (Ahn et al., 2008).

From the perspective of Islamic financial theory, companies involved in halal ventures and avoiding illegitimacy must submit to various restrictions. These limits include various levels, including financing, investment, operations, and risk management practices; Non-sharia companies are not subject to these restrictions (Ahmed, 2009). Funding restrictions faced by Islamic companies will have an impact on the level of capital structure. Due to the low level of leverage, capital structure of companies that comply with sharia is much lower compared to non-sharia companies (Alnori and Alqahtani, 2019). The results of Alnori and Ahqahtani's research (2019) confirm the results of previous studies that found evidence that companies that comply with sharia have lower leverage compared to non-sharia companies (Farooq and Tbeur, 2013; Naz et al., 2017; Naz et al., 2017; Farooq & Tbeur, 2013). Based on these empirical results, the researcher postulates that due to the low level of default risk, Islamic companies have a low level of leverage, so that it has or leads to a low cost of equity capital. Thus the hypothesis can be arranged:

H5: Leverage moderates the relationship of free cash flow with the cost of equity capital

3. Research Design

3.1 Sampling

The research sample used in this study includes listed companies listed on the Sharia Securities List (DES) from 2012 to 2017. Referring to the research focus and dependent variables, the research sample only includes companies that have free cash flow criteria for maximum total assets 33.3%. In addition, selected samples also companies that meet the criteria, (1) consistently recorded in the List of Sharia Securities (DES) during the period 2012 to 2017, (2) regularly publishes financial reports and annual reports during the period 2012 - 2017, and (3) has complete financial

ratio data for the period 2012 - 2017. Based on the sample selection criteria, the study sample consisted of 276 observations or totaling 46 issuers. Sources of data for use were obtained from the Bloomberg Finance Database.

3.2 Research Design

This study builds an indirect relationship of the effect of free cash flow on the cost of equity capital, which is mediated by investment efficiency. The moderation effect of leverage is also analyzed in this relationship. Empirically, the model of mediation and moderation effects in the relationship of free cash flow with the cost of equity capital is illustrated as in Figure 1.

The results showed the mediating effect of investment inefficiency in the relationship of free cash flow with the cost of equity capital. It is tested using the causal step approach proposed by Baron and Kenny (1986). The regression equation to test the overall relationship between variables is stated as follows:

$$CoE_{i,t} = \beta_0 + \beta_1 FCF_{i,t} + Invine_{i,t} + \varepsilon_{i,t} \quad (1)$$

$$Invine_{i,t} = \beta_0 + \beta_1 FCF_{i,t} + \varepsilon_{i,t} \quad (2)$$

$$CoE_{i,t} = \beta_0 + \beta_1 FCF_{i,t} + DER_{i,t} * FCF_{i,t} + \varepsilon_{i,t} \quad (3)$$

The mediation effect in the empirical model is tested using a causal step approach (Baron and Kenney, 1986). Mathematically, the mediation test equation of the empirical research model is stated as follows:

$$CoE_{i,t} = \beta_0 + c\, FCF_{i,t} + \varepsilon_1 \quad (4)$$

$$Invine_{i,t} = \beta_0 + \beta_1 FCF_{i,t} + \varepsilon_2 \quad (5)$$

$$CoE_{i,t} = \beta_0 + c' FCF_{i,t} + \beta_2 Invinve_{i,t} + \varepsilon_3 \quad (6)$$

Furthermore, the empirical model of moderation test is expressed by mathematical equations, as follows:

$$CoE_{i,t} = \beta_0 + \beta_1 FCF_{i,t} + \varepsilon_1 \quad (7)$$

$$CoE_{i,t} = \beta_0 + \beta_1 FCF_{i,t} + DER_{i,t} * FCF_{i,t} + \varepsilon_2 \quad (8)$$

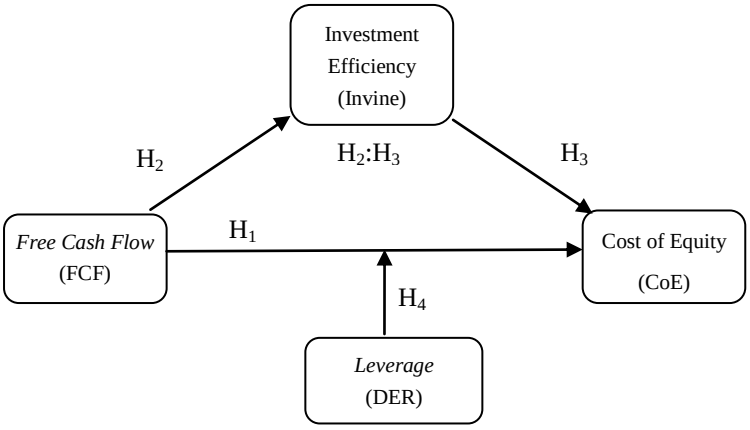

Figure 1. Research framework

3.3 Variable Measurement

a. Free Cash Flow (FCF)

In this study, FCF is measured using a retained free cash flow (RCF), which is the funds actually available for investment. This indicator was also proposed by previous researchers (Lehn and Poulsen, 1989; Chung et al., 2005). The RCF of each company is measured in the ratio as follows:

$$RCF_{i,t} = \frac{NOBDA_{i,t} - TAX_{i,t} - INT_{i,t} - TDP_{i,t}}{TA_{i,t-1}}$$

In which, is the retained free cash flow of company i in year t; is the net operating income before depreciation and amortization of company i in year t; is the total tax payment of company i in year t; is the interest expense of

company i in year t; is the total dividend paid by company i in year t, and is the total assets of company i before year t

b. Investment Efficiency (Invine)

The investment efficiency indicators in this study are measured by reference to previous studies (Biddle et al., 2009; Abbas et al., 2018; Majeed et al., 2018). Operationally, investment efficiency is a function of growth opportunities as measured through sales growth. Therefore, mathematically the measurement of investment efficiency can be expressed by the equation, as follows:

$$Investment_{i,t} = \beta_0 + \beta_1 Sales\ Growth_{i,t-1} + \varepsilon_{i,t}$$

From the equation above, it is the level of investment of company i in year t that is scale with total assets. is the percentage change in sales in year t-2 from year t-1. The residual value of the regression results is an investment distortion or investment inefficiency. By synthesizing residual values, the data obtained are used to measure investment inefficiency. The higher absolute value indicates the inefficient level of investment.

c. Cost of Equity (CoE)

There are several equity capital cost assessment models that have been used by previous studies. In general, the model for evaluating the cost of equity capital is divided into 2 (two) groups. First, ex-ante model (based on forecast data), and second, ex-post model (based on historical data data). The first measurement (ex-ante) or also called the implied cost of equity capital is divided into 2 (two) models, namely residual income valuation models (Claus and Thomas, 2000; Gebhardt et al., 2001) and abnormal growth models (Easton, 2004; Ohlson and Juettner-Nauroth, 2005). Although the measurement of ex-ante equity capital costs is recommended as a criterion of the expected rate of return by investors, it is related to its application that cannot be met in Indonesia, particularly in terms of EPS (earning-per-share) dividend growth rates, this study uses measurements ex-post model, namely the Capital Asset Pricing Model (CAPM) approach. In addition, the CAPM model is used to calculate stock returns on the Indonesian capital market. Mathematically, the CAPM formula is formulated with the following equation:

$$CoE_{i,t} = Rf_{i,t} + \beta\left(Rm_{i,t} - Rf_{i,t}\right) + \varepsilon_{i,t}$$

In which $CoE_{i,t}$: Cost of Equity; $Rf_{i,t}$: Risk free return; β: Risk level of the firm; $Rm_{i,t}$: Market Rate of Return;

$\varepsilon_{i,t}$: Error term; *i*: Number of companies; *t*: Number of years

d. Leverage

Referring to sharia screening, leverage in this study is measured by debt equity ratio (DER), that is total liabilities divided by total equity

4. Result and Discussion

4.1 Descriptive Statistics

Table 1 presents several descriptive measures based on the minimum, maximum, average and standard deviation of DER (leverage), FCF, investment inefficiency, and CoE (cost of equity) variables.

Tabel 1. Descriptive statistics

	N	Min.	Max.	Mean	Std. Dev
DER (Z)	276	.00016	.68695	.1931597	.21671806
FCF (X)	276	-.01913	.31285	.0901448	.06043705
Inefficiency (M)	276	20.607	72597.964	9318.46583	8923.202894
CoE (Y)	276	-.01861	.16377	.1001736	.01934112

Table 1 shows the minimum value of leverage (DER) of 0.00016, while the maximum value of DER is 0.69695. The average DER is 0.1931597, with a standard deviation of 0.21671806. The minimum value of free cash flow (FCF) is -0.01913, while the maximum value of FCF is 0.31285. The average FCF is 0.0901448, with a standard deviation of

0.06043705. The minimum value of investment inefficiency (invine) is 20.607 (in billion rupiah), while the maximum value is 72597.964 (in billion rupiah). The average value of investment inefficiency is 9318.46583, with a standard deviation of 8923.202894. The minimum CoE value is -0.01861, while the maximum value of CoE is 0.16377. The average CoE is 0.1001736, with a standard deviation of 0.01934112.

5. Regression Results

Table 2 below shows the estimation results of the relationships between constructs of the empirical research model.

Table 2. Estimation results of the relationships between constructs

Independent Variable	Dependent Variable				
	Direct Effect		Mediator		Moderator
	Invine	CoE	Invine	CoE	CoE
FCF	-0.152	-0.147	-0.123	-0.221	-0.154
Sig.	(0.005)	(0.006)	(0.005)	(0.005)	(0.077)
Invine				-0.377	
Sig.				(0.014)	
Interaksi (DER*FCF)					-0.278
Sig.					0.047

The results of regression equation (1) in Table 2 show the FCF effect coefficient on CoE of -0.221 and the coefficient of investment inefficiency (invine) on the cost of equity capital (CoE) of -0.337 with a significance level of ≤ 5%, respectively. These results indicate, hypotheses 1 and 3 are accepted. The results of hypothesis 1 are in line with agency theory which postulates that firms with low free cash flow characteristics tend not to be affected by high agency costs arising from managerial misuse of free cash flow (Jensen, 1986). As a result, companies have lower levels of agency conflict. Reducing agency conflict will reduce the level of profit implied by investors or the cost of equity capital of the company. The results of hypothesis 3 imply that the cost of equity increases when companies make inefficient investment decisions. Conversely, the cost of equity capital decreases when companies invest efficiently. The results of equation (2) show that the coefficient of influence of the variable free cash flow (FCF) on investment inefficiency (invine) is -0.123 and significant level ≤ 0.05. In another interpretation these results indicate that free cash flow has a positive effect on investment efficiency. Thus, hypothesis 2 is accepted. The results of this hypothesis test confirm previous research (Claessens et al., 2000; Siddiqui, 2007; Guizani, 2017) which shows that cash restrictions encourage companies to make efficient investment decisions.

To test the effect of invine mediation in the free cash flow process affecting the cost of equity capital, in Table 1 it is known that the FCF direct effect coefficient on CoE is -0.147 with a significance level of ≤ 0.05. Therefore, the initial conditions of the causal step approach from Baron and Kenny (1986) are met. Furthermore, the results of regression equation (5), namely FCF direct effect on mediation (invine) showed a coefficient of -0.152 and significant at the level level 0.05. Thus, the second condition of the causal step approach is fulfilled. To test whether there is an invine mediation in the relationship of free cash flow to the cost of equity capital, the results of regression equation (6) obtained an FCF coefficient (c') of -0.221 and an invine coefficient of -0.377 with a significance level of ≤ 0.05. Thus, partial mediation occurs, in which free cash flow reduces investment inefficiency, and at a low level of investment inefficiency (high efficiency) lowers the cost of equity capital (Figure 1). Thus, hypothesis 4 is accepted.

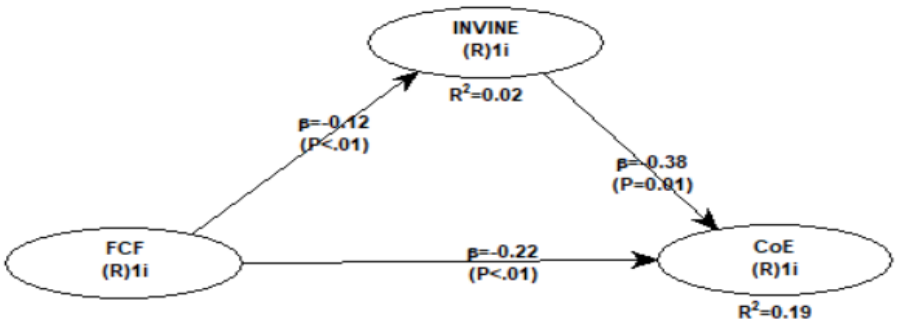

Figure 2. Path chart of full results

The test results according to Figure 1 show the coefficient of the influence of free cash flow on the cost of equity capital after being mediated by invine (c') is -0.221. This amount is smaller (decreased) than the direct effect coefficient of free cash flow on the cost of equity capital, which is -0.147 (table 2). Thus, the effect of free cash flow on the cost of equity capital is stronger indirectly than directly.

To test whether leverage (DER) is significant in moderating the effect of FCF on CoE, regression equation (8) shows the results of the interaction coefficient of DER*FCF is -0.047 and significant at the level <0.05, it is concluded that leverage moderates (weakens) the effect of FCF on CoE. Therefore, hypothesis 5 is rejected. This result contradicts previous empirical studies which state that low leverage ratios are determinants of company equity costs (Kouser et al, 2016) because they have a low bankruptcy risk (Jensen, 1986), so that negatively affects the cost of equity capital (Modigliani and Miller , 1958, 1963).

6. Conclusion

This study investigates the effect of firms charateristics on the cost of equity capital. By using 276 observations from 46 sharia-based companies during the 2012-2017 period, the results of the study showed that free cash flow had a significant negative impact on the cost of equity capital. These results indicate the low level of free cash flow, as one of the characteristics of the company, is not affected by managerial opportunism behavior. With limited cash as meeting Islamic criteria, companies are able to manage agency conflicts at a low level so as to reduce the cost of equity capital. The results of this study contribute to the financial constraints literature by documenting that financially constrained companies have control over opportunistic behavior. This study found evidence of an indirect effect that was stronger than the direct effect of free cash flow on the cost of equity capital.

These results provide empirical evidence that investment opportunities and corporate governance mechanisms have an important role in minimizing the cost of equity capital. In contrast, this study found no evidence of the effect of leverage in strengthening the relationship of free cash flow with firm value. With its low-leverage characteristics, it is not enough to be able to influence the cost of equity capital. Possible reasons are because low leverage contains a positive investment signal so that it does not have an impact on the level of profits that investors require. Another reason, limiting the level of leverage results in limited withdrawal of funds from external sources, thereby reducing the supply of funds for companies, and hence, companies face a higher probability of bankruptcy.

This study has several limitations. First, the proxy used as an indicator of investment efficiency and the cost of equity capital is not as suggested in other studies, so there is a great chance of measurement error. Second, this study does not distinguish between sharia and non-sharia companies to get a deeper understanding of the variables studied. Third, this study does not use all financial ratios screening in analyzing its impact on investment efficiency and the cost of equity capital. Therefore, further research is expected to be able to use indicators of investment efficiency and the cost of equity capital that is suitable for minimizing measurement errors, differentiating between sharia and non-sharia companies and using all financial ratios screening in analyzing their impact on investment efficiency and the cost of equity capital.

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