

Financing Decisions: Is the Quality of Information Still Relevant to be Considered?

(Keputusan Pembiayaan: Adakah Kualiti Maklumat Masih Relevan untuk Dipertimbangkan?)

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ABSTRACT

Information asymmetry makes it difficult for company management to make decisions regarding funding sources. This study aims to investigate and explain the behaviour of company management when faced with asymmetric information problems. Data on 459 companies in Indonesia during the 2005–2019 period are surveyed in an attempt to provide the latest evidence regarding this issue. Investigations using the fixed-effect model approach and dynamic two-step system generalised method of moments are carried out using preliminary and robustness tests. The results show that in addition to company-specific factors, the problem of asymmetric information is an important factor considered by management in determining funding sources. The worsening information gap has led companies to increasingly use external funding from borrowing instead of adding additional funding sources from equity issuance (confirming the pecking order theory). Robust results in this study will be of use to regulators and enrich the literature related to corporate funding decisions in developing countries.

Keywords: Asymmetric information; financial risk; capital structure; crisis; Indonesia.

ABSTRAK

Asimetri maklumat menyukarkan pengurusan syarikat untuk membuat keputusan mengenai sumber pembiayaan. Kajian ini bertujuan untuk menyasat dan menjelaskan tingkah laku pengurusan syarikat apabila berhadapan dengan masalah maklumat tidak simetri. Data mengenai 459 syarikat di Indonesia dalam tempoh 2005–2019 ditinjau dalam usaha untuk memberikan bukti terkini mengenai isu ini. Penyasatan menggunakan pendekatan fixed-effect model dan dynamic two-step system generalised method of moments dijalankan menggunakan ujian awal dan kekukuhan. Hasil kajian menunjukkan selain faktor khusus syarikat, masalah maklumat tidak simetri merupakan faktor penting yang dipertimbangkan oleh pihak pengurusan dalam menentukan sumber pembiayaan. Jurang maklumat yang semakin teruk telah menyebabkan syarikat semakin menggunakan pembiayaan luar daripada peminjaman dan bukannya menambah sumber pendanaan tambahan daripada terbitan ekuiti (mengesahkan teori pecking order). Keputusan yang kukuh dalam kajian ini akan berguna kepada pengawal selia dan memperkayakan literatur yang berkaitan dengan keputusan pembiayaan korporat di negara membangun.

Kata kunci: Maklumat asimetri; risiko kewangan; struktur modal; krisis; Indonesia.

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INTRODUCTION

The existence of asymmetric information indicated by the availability of special information for the insider (Jaffe 1974) causes market failures in determining the price of company assets both in developed markets (Fosu et al. 2016) and in developing countries (Huynh et al. 2020; Satrio et al. 2022). Asymmetric information can cause management to adjust funding decisions. This topic was discussed more than three decades ago (Myers & Majluf 1984), but it is still an interesting topic today (Fulghieri et al. 2020; Glücksman 2020; Sony & Bhaduri 2021). The existence of information gaps between management and external parties (Myers & Majluf 1984) and between traders (Bagehot 1971) can complicate company funding decisions because management needs to consider the low cost of capital.

One step that can be taken to improve the quality of information is disclosing information to the public. However, whether the improvement in the quality of this information can be useful for considering the decision on funding sources in each company has yet to be determined. Some studies have attempted to answer this question but with mixed results (Bhaduri 2015; Komera & P.J. 2015; Sony & Bhaduri 2018). In this case, investors can be more confident in bad news than in good news (Kim & Shi 2011). The company's inability to overcome asymmetric information necessitates companies to adjust their funding decisions to these problems. They must have the right timing related to issuing debt and equity in the capital market (Baker & Wurgler 2002).

This study aims to explain the behaviour of company management in developing countries in determining funding sources when companies face

asymmetric information problems. It has been shown that there is an asymmetric information relationship in the selection of funding sources (Gao & Zhu 2015), but further studies are needed. First, testing in the period after the 2008 financial crisis is required. It is essential to investigate the period of the financial crisis because it can change the risk premium (Pianeselli & Zaghini 2014), debt financing costs (Tran 2021), debt maturity (González 2015), default risk (O'Toole & Slaymaker 2021), and financing source decisions (Cho et al. 2021; Li et al. 2021; Zubair et al. 2020). This study considers the crisis period in the modelling and performs testing in the subsample. Second, testing with the latest period is needed considering that increasingly sophisticated information content will affect trading, turnover, and stock returns in the big data era (Liu et al. 2018), which will have an impact on alternative sources of company funding (market timing theory [Baker & Wurgler 2002]). The crisis period will impact the company's performance and financial information differently. Finally, country-specific testing needs to be done because each country has different characteristics, specific information and changes over time.

Investigating asymmetric information on funding decisions is essential in Indonesia, a developing country, with at least two considerations. First, public companies in Asia typically have low disclosure quality and transparency (Claessens & Fan 2002), and Indonesia is no exception; this is indicated by high asymmetric information (Satrio 2021; Satrio et al. 2022). This is exacerbated by conditions in Indonesia as a civil law adherent with weak investor protection characteristics (Darmadi & Sodikin 2013). Second, implementing good corporate governance in Indonesia does not always guarantee an increase in public trust (Satrio 2022a). These two arguments make the issue of asymmetric information and funding decisions in Indonesia important.

It is noteworthy that this study differs from previous research with several significant contributions. First, this study adds to the literature by broadening the understanding of funding decisions from book and market leverage points of view and considering funding decisions from the company's equity side. Second, this study raises the pecking order theory by assessing the rent-seeking logic or financial restraint hypothesis, agency theory, signalling theory, and market timing theory. The whole theory can explain the logic related to company funding decisions. Third, this test is carried out with the latest data for fifteen years (2005–2019), with an investigation in stages. Tests are carried out with fixed effects (FE) and a two-step dynamic generalised method of moments (GMM) panel regression (Blundell et al. 2001). A series of examinations are carried out by considering several control variables and testing a post-crisis subsample to ensure robust test results. This study contributes to policymakers at the company and government (regarding regulations) levels. Asymmetric information that makes it difficult for a company to make

funding decisions can serve as a reference for regulators to ensure good corporate governance through regulations. The issue of information disclosure is a problem in itself, especially in developing countries which tend to be faced with high uncertainty. These results can also be used for future studies on funding decisions and information quality, especially in developing countries.

The following sections in this article are organised as follows. The second part presents the conceptual and hypothesis development in this study. The next stage describes the methodology used in conjunction with the estimation model. The fourth part of the study discusses the results of the analysis. Finally, the fifth section contains the conclusions and implications of this study.

LITERATURE REVIEW

ASYMMETRIC INFORMATION AND FINANCING DECISIONS

Minimal analyst references (Chauhan et al. 2015) and weak investor protection (Darmadi & Sodikin 2013) cause companies in developing countries to face severe difficulties with asymmetric information. This is true even in the 4.0 era (Thing et al. 2021). Recent studies in Indonesia (Satrio 2021; Satrio et al. 2022) show that this problem of asymmetric information causes public confusion in assessing companies. However, will asymmetric information automatically influence the company's funding decision-making? Komera and P.J. (2015) found that firms faced with high levels of information inequality rendered the funding source decision hierarchy useless. However, other evidence (Bhaduri 2015; Sony & Bhaduri 2018) shows that the problem of asymmetric information has a vital role in companies' financing decisions. To reconcile the various empirical evidence, this section discusses the relevant theories.

Inequality of information causes companies to prefer internal funding. This logic is explained through the pecking order theory, which assumes adverse selection costs (Myers & Majluf 1984). However, the limited internal sources mean the company has no other way to obtain funding than external sources. Referring to the decision hierarchy of the company's funding structure (pecking order theory), external funding in the form of debt is the next step that can be taken when internal funding is limited.

In addition to the pecking order theory, decisions on funding sources from debt can be explained through the Modigliani-Miller (MM) theory, rent-seeking or rent protection hypothesis, agency theory, and market timing theory. MM's theory of after-tax explains the benefits of using debt, namely tax-deductible expenses (Modigliani & Miller 1963). Referring to this theory, acquiring debt will be more beneficial for companies than issuing equity. Furthermore, referring to rent-seeking (Bebchuk & Roe 1999) or rent-protection theory (Bebchuk 1999), the

company prefers to choose a funding source form of debt because it maintains a proportion of previous ownership. This theory is particularly relevant in developing country economies (Chu 2015).

Referring to agency theory (Berle & Means 1933; Jensen & Meckling 1976), the principal cannot verify what the agent is doing (asymmetric information). These problems cause additional funding sources from debt to be necessary, even if managers dislike it because of increased monitoring (Ganguli 2013). Funding is an essential factor in company performance and, in aggregate, is crucial in corporate governance (Stiglbauer 2011). The managers' use of debt will reduce the entrenchment effect when their control is relatively low, indicating financial institutions' role in supervising companies (Chu 2015).

The equity market timing theory can also explain information gaps about corporate funding decisions (Baker & Wurgler 2002). This theory explains that market valuations influence the company's capital structure. The logic underlying this theory is that the right timing is needed to determine the company's funding decisions. Companies with underpriced equity will prefer to use debt rather than equity issuance as an alternative funding source.

HYPOTHESES DEVELOPMENT

The pecking order, MM after-tax, rent-seeking, rent-protection, and agency theories show that companies tend to obtain funding sources from debt compared to the issuance of new shares. Inequality of information indicated by a misevaluation of stock market prices can also be a reason for companies to use debt-based funding (market timing theory [Baker & Wurgler 2002]). The overall description shows the relationship between asymmetric information and the company's funding sources. Asymmetric information, in this case, will influence capital structure decisions (Bharath et al. 2009). Unlike those in developed countries, companies in developing countries tend to use debt funding sources, as evidenced in India (Bhaduri 2015; Sony & Bhaduri 2018). This is unsurprising because of its weak regulation and disclosure of information. The relationship between asymmetric information and market leverage is less visible in common law countries and countries with adequate legal protection or defensive disclosure practices (Gao & Zhu 2015). Based on these theories and logic, the hypothesis that can be proposed in this study is as follows.

H₁ Asymmetric information causes an increase in the use of debt as a funding source.

Signalling theory (Spence 1973) is another alternative to explain company funding decisions; it describes the importance of signalling due to information inequality. Information inequality causes outsiders to be unable

to distinguish between companies with good and bad prospects, so companies face high capital costs. In this case, management may prefer to maintain a sustainable dividend payment (Lintner 1956) to ensure good judgment on the part of investors (Gordon 1959). Although there are several conflicts related to dividend payout policy, the presence of this theory in much financial literature still exists today. Dividend policy is essential to governance and determining the number of financial reserves and retained earnings (Lintner 1956).

Referring to the importance of dividend policy for companies and the consideration of much empirical evidence related to the cost of capital (Dhaliwal et al. 2014; He et al. 2013; Lopes & Alencar 2010; Ng & Rezaee 2015), highly asymmetric information causes companies to avoid issuing equity. There are at least two reasons to avoid equity as a funding source. First, giving signals to the public is essential; a dividend policy is one way to do this. This policy's existence means that internal funding sources cannot be the only reliable funding source. Second, additional sources of financing from the equity in the event of high information gaps should not be done because it is an attempt by management to avoid the risk of a higher cost of capital. This logic is supported by the latest evidence in India (Sony & Bhaduri 2018; 2021). Therefore the following is hypothesised:

H₂ High asymmetric information causes lower sources of funding from equity.

METHODOLOGY

DATA AND SAMPLE

This study uses 459 non-financial companies listed on the Indonesia Stock Exchange (IDX) from 2005 to 2019. Financial companies are not used because companies in this industry have different financial and regulatory characteristics in Indonesia. Data were collected from two main sources. First, company financial data is obtained by extracting it from the annual financial statements of each company. Second, data on the bid-ask spread, date of going public, and stock price were obtained from the Indonesia Capital Market Institute and IDX.

MEASUREMENTS

The financing decision is the dependent variable in this study. Following previous research (Huang & Shang 2019), this study measures company funding decisions using book and market leverage. Book leverage is determined based on the ratio of debt to total assets, while market leverage is based on the ratio of debt to total market capitalisation plus debt. This study also uses another alternative measurement of corporate funding decisions to ensure consistency in the test results: equity ratio (equity to total assets). The equity ratio in this study

is based on the company's net equity. Companies with higher debt funding sources should negatively correlate with this equity ratio.

The independent variable in this study is asymmetric information measured using the bid-ask spread. This indicator was revealed half a century ago (Bagehot 1971) and is still being used and investigated in the recent literature (Bernales et al. 2018; Harris 2017; Sabet & Heaney 2015; Yu et al. 2018). The widening bid-ask spread indicates the inability of investors to assess managerial opportunities (Yu et al. 2018). The bid-ask spread in this study is based on the daily data of the bid-ask spread, averaged over a year. This step is carried out by considering its investigations into funding decisions in this study.

This study uses company's characteristics factors (profitability, sales growth, size, and age) as control variables with consideration of several previous studies (Bandyopadhyay & Barua 2016; Christopher & Chalid 2019; Dang et al. 2014; Jermias & Yigit 2019; Khémiri & Noubbigh 2018; Li & Islam 2019). This study's investigation was also carried out by considering industry-specific factors and the effects of the financial crisis. Industry effects are important because leverage relationships and company-specific variables differ across industries and can directly or indirectly influence companies' capital structure choices (Li & Islam 2019). The use of different leverage was also carried out by company management when adjusting to the financial crisis period (Jermias & Yigit 2019). The details of the measurements of each variable in this study are summarised in Table 1.

ESTIMATION MODEL

The estimation model in this study was built based on the baseline and full models. It uses an FE model considered the preliminary test, as presented in Tables 4, 6 and 7. The GMM dynamic model was also used to ensure consistency of results, due to endogeneity effects. The system GMM was tested with a preliminary test, following Bond (2002). A dynamic two-step system GMM model (Blundell et al. 2001) was used because it is more robust than the one-step GMM estimator (Hwang & Sun 2018). The baseline model in this study is as follows:

$$\text{LEVERAGE}_{i,t} = \beta_0 + \beta_1 \text{LEVERAGE}_{i,t-1} + \beta_2 \text{PROFIT}_{i,t} + \beta_3 \text{GROWTH}_{i,t} + \beta_4 \text{SIZE}_{i,t} + \beta_5 \text{AGE}_{i,t} + \epsilon_{i,t} \quad (1)$$

where LEVERAGE shows the book leverage and market leverage, and the opposite is the equity ratio. The company's ability to generate profits (PROFIT) is measured based on return on assets. GROWTH, measured based on sales growth, captures information related to company growth opportunities. SIZE is determined based on ln total assets, while AGE is based on the length of time since the company was listed on IDX.

The full model in this study was built based on the baseline model. Testing is still carried out with two estimation models, FE and two-step GMM, to ensure consistency in the test results. Dynamic GMM testing was carried out with the following regression model:

$$\text{LEVERAGE}_{i,t} = \beta_0 + \beta_1 \text{LEVERAGE}_{i,t-1} + \beta_2 \text{PROFIT}_{i,t} + \beta_3 \text{GROWTH}_{i,t} + \beta_4 \text{SIZE}_{i,t} + \beta_5 \text{AGE}_{i,t} + \beta_6 \text{SPREAD}_{i,t} + \epsilon_{i,t} \quad (2)$$

RESULTS

DESCRIPTIVE STATISTICS RESULT

Table 2 presents descriptive statistics at the firm-year level. The mean values of book leverage, equity ratio, and market leverage are 0.5459, 0.4393, and 0.4558, respectively. The three values are relatively the same as the median value, which means this study has no high gap leverage and equity ratio data. The third quartile (Q3) value on the book and market leverage shows that a quarter of the companies registered in Indonesia predominantly use debt as the funding source.

Table 3 presents the results of Person's correlation testing on all variables in this study with a significance level of 0.05. The results show that the correlation between book and market leverage is 0.5191. Significantly, these two measurements have the same information regarding the use of debt in the company. Unsurprising results were found in the negative correlation between book leverage and equity ratio. It is important to understand the correlation of these variables because they all reflect a company's funding decisions. There is no multicollinearity seen in the correlation value between the independent variables, which is less than 0.8.

REGRESSION RESULTS

The initial stage of testing the regression model in this study was carried out with a FE model after conducting preliminary testing with the Chow, Hausman, Breusch and Pagan Lagrangian Multiplier (LM) tests. The baseline model examines the ability of company's characteristics factors to explain changes in leverage. The book leverage test shows the directional coefficient for profitability, growth, size, and company age: -0.0160, -0.0002, -0.1019, and 0.0018, respectively, all significant at the 0.01 level. Testing the company's characteristics factors is also significant in testing the equity ratio and market leverage. This shows that companies with higher profits, sales growth, and bigger size in Indonesia will tend to reduce their dependence on debt funding and prefer equity-sourced funding.

The full model test, which includes asymmetric information (bid-ask spread), is carried out based on the baseline model. The test results on book leverage

and market leverage show coefficient values of 0.0732 and 0.0686, significant at the 0.01 level. These results indicate that companies experiencing increasingly serious asymmetric information problems tend to use debt rather than equity as a funding source. This result remains consistent in testing using the equity ratio indicator, which is indicated by a coefficient of -0.0678, which is also significant at the 0.01 level.

In the next stage, it was tested with the dynamic GMM model. Testing with the GMM estimator is useful in controlling the endogeneity of the explanatory variables

and avoiding the unobservable constant heterogeneity that occurs in each company. Table 5 summarises the test results with the GMM estimator. Each test is carried out by first testing the baseline model, and then the full model. The whole test involves the year dummy and controlling for industry effects and standard error to avoid heteroscedasticity problems.

This study also performs post-estimation specification tests to ensure robust and valid testing with the GMM estimation model. The Hansen test aims to test the correlation between the instruments and the error

TABLE 1. Variable definition

Abbreviation	Variables	Calculation
<i>Dependent variables</i>		
Book Leverage	Debt to total asset	Total book of debt to total book of the asset.
Equity Ratio	Equity to total asset	Total net equity to total assets.
Market Leverage	Debt to total market capital	The total book of debt compared to market capital. The market capital value is obtained from the sum of the total book of debt and the market value of equity.
<i>Independent variable</i>		
Spread	Bid-ask spread	The difference between the ask and bid prices is then divided by the average bid and ask prices.
<i>Control variables</i>		
Profit	Return on asset	Net profit after tax divided by total assets.
Growth	Sales growth	The difference in sales between years against the previous year's sales.
Size	Company size	Natural logarithm of total assets.
Age	Company age	The age of the company has been counted since its listing on IDX.

TABLE 2. Descriptive statistics

	Mean	Std. Dev.	Min	Max	Q1	Q2	Q3
Book Leverage	0.5459	0.4241	0.0232	3.0064	0.3098	0.4979	0.6572
Equity Ratio	0.4393	0.4152	-1.9947	0.9898	0.3255	0.4787	0.6613
Market Leverage	0.4558	0.2724	0.0001	1.0000	0.2208	0.4398	0.6807
Spread	0.3648	0.5924	0.0017	2.0000	0.0137	0.0496	0.4213
Profit	0.0561	1.7248	-109.9861	49.6796	0.0167	0.0634	0.1145
Growth	2.0252	86.2807	-1.0000	6051.0300	-0.0571	0.0835	0.2273
Size	28.1260	1.7954	20.1553	33.4945	26.9686	28.1779	29.3449
Age	14.3948	9.7018	0.5065	107.0021	6.7598	14.1903	20.4654

TABLE 3. Pearson correlation results

	1	2	3	4	5	6	7	8
1. Book Leverage	1							
2. Equity Ratio	-0.9693*	1						
3. Market Leverage	0.5191*	-0.5110*	1					
4. Spread	0.1616*	-0.1505*	0.0905*	1				
5. Profit	-0.0833*	0.0841*	-0.0242	-0.0037	1			
6. Growth	-0.0139	0.0123	-0.0224	-0.0015	0.0001	1		
7. Size	-0.1039*	0.0833*	0.0495*	-0.3709*	0.0357*	0.0086	1	
8. Age	0.0419*	-0.0516*	0.0795*	0.0416*	0.0033	-0.0008	0.0879*	1

TABLE 4. Panel FE results

	Book Leverage		Equity Ratio		Market Leverage	
	Baseline [1]	Full [2]	Baseline [3]	Full [4]	Baseline [5]	Full [6]
Spread		0.0732*** (0.0199)		-0.0678*** (0.0195)		0.0686*** (0.0096)
Profit	-0.0160*** (0.0040)	-0.0169*** (0.0041)	0.0148*** (0.0040)	0.0156*** (0.0040)	-0.0022* (0.0013)	-0.0028*** (0.0009)
Growth	-0.0002*** (0.0000)	-0.0002*** (0.0000)	0.0002*** (0.0000)	0.0002*** (0.0000)	-0.0001*** (0.0000)	-0.0001*** (0.0000)
Size	-0.1019*** (0.0311)	-0.0910*** (0.0311)	0.0939*** (0.0308)	0.0831*** (0.0307)	0.0408*** (0.0099)	0.0528*** (0.0095)
Age	0.0018*** (0.0002)	0.0018*** (0.0002)	-0.0016*** (0.0003)	-0.0017*** (0.0003)	-0.0008 (0.0005)	-0.0008* (0.0004)
Constant	3.5148*** (0.8855)	3.1762*** (0.8860)	-2.3168*** (0.8755)	-1.9826** (0.8730)	-0.6268** (0.2818)	-0.9986*** (0.2701)
Period effect	Yes	Yes	Yes	Yes	Yes	Yes
Industry effect	Yes	Yes	Yes	Yes	Yes	Yes
Control Std. Error	Yes	Yes	Yes	Yes	Yes	Yes
Chow test (p-value)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hausman test (p-value)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Breusch and Pagan LM test (p-value)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
R-squared	0.0917	0.1219	0.0839	0.1117	0.0979	0.1117

Notes: The values in parentheses after presenting the coefficients are robust standard errors. The significance level uses the eccentric symbols ***, **, and *, equal to the significance levels of 0.01, 0.05, and 0.1, respectively.

TABLE 5. GMM results panel

	Book Leverage		Equity Ratio		Market Leverage	
	Baseline [1]	Full [2]	Baseline [3]	Full [4]	Baseline [5]	Full [6]
Spread		0.0137** (0.0067)		-0.0222** (0.0092)		0.0217*** (0.0082)
Leverage _{t-1}	0.9789*** (0.0417)	0.9465*** (0.0485)	0.9579*** (0.0503)	0.7856*** (0.0735)	0.8938*** (0.0519)	0.8017*** (0.0538)
Profit	-0.0232*** (0.0052)	-0.0218*** (0.0053)	0.0185*** (0.0066)	0.0180*** (0.0043)	0.0006 (0.0014)	-0.0002 (0.0015)
Growth	-0.0004*** (0.0000)	-0.0004*** (0.0000)	0.0004*** (0.0000)	0.0004*** (0.0000)	-0.0001*** (0.0000)	-0.0001*** (0.0000)
Size	-0.0048** (0.0020)	-0.0029 (0.0026)	0.0041** (0.0017)	0.0056 (0.0043)	0.0042*** (0.0012)	0.0079*** (0.0021)
Age	-0.0007*** (0.0002)	-0.0006*** (0.0002)	0.0007** (0.0003)	0.0006 (0.0004)	-0.0005* (0.0003)	-0.0014* (0.0009)
Constant	0.1713** (0.0674)	0.0000 (0.0000)	-0.1076* (0.0554)	-0.1422 (0.1305)	0.0000 (0.0000)	0.0000 (0.0000)
Period effect	Yes	Yes	Yes	Yes	Yes	Yes
Industry effect	Yes	Yes	Yes	Yes	Yes	Yes
Control Std. Error	Yes	Yes	Yes	Yes	Yes	Yes
AR(1) (p-value)	0.000	0.000	0.000	0.001	0.000	0.000
AR(2) (p-value)	0.067	0.108	0.895	0.702	0.164	0.612
Hansen test (p-value)	0.311	0.105	0.087	0.118	0.103	0.322

Notes: The values in parentheses after presenting the coefficients are robust standard errors. The significance level uses the eccentric symbols ***, **, and *, equal to the significance levels of 0.01, 0.05, and 0.1, respectively.

term in the estimation model. The test results should not reject the null hypothesis, which states no correlation between the instruments and the error term in the first difference equation. The results for both the baseline and the full model show that the p-value of the Hansen test is greater than 0.05, which means that the estimation model is robust and valid.

Post-estimation specification test was also conducted concerning AR(1) and AR(2). These two tests are performed to ensure that the model is consistent and unbiased due to endogeneity. The test results in Equations 1 to 6 show that the p-value in AR(1) is less than 0.05. Conversely, the test results on AR(2) on the test showed p-values greater than 0.05. AR(1) and AR(2) tests show that the estimation model with GMM is consistent and unbiased.

The baseline and full model testing, as shown in Table 5, includes the lag(1) dependent variable in all tests. Overall, the baseline model tests on equity and market leverage also show similar results. The second column's full model shows the positive effect of asymmetric information on the company's book leverage. Consistent results were found on the market leverage test. These results support the first hypothesis (H_1). The test in Column 4 shows the negative effect of asymmetric information on the use of funding sources from company equity, which also supports this study's second hypothesis (H_2). These tests confirm the results of previous tests with the FE model.

FURTHER EXAMINATION: CRISIS EFFECT

Conduct further tests to follow up on the effects of the crisis on determining each company's funding source, which depends on high uncertainty and asymmetric information that amplifies financial risk (Cao & Petrask 2014; Deesomsak et al. 2009). Companies will pay more attention to debt exposure during the crisis, and creditors will be more stringent in providing loans (Deesomsak et al. 2009). The financial crisis, in this case, can cause changes in the debt financing costs (Tran 2021), debt maturity (González 2015), risk premium (Pianeselli & Zaghini 2014), and default risk (O'Toole & Slaymaker 2021). Different investment behaviour by investors during the crisis in developing countries (Omay & Iren 2019) is also a separate consideration for companies in determining their funding sources. To ascertain the effect of the crisis on the funding decisions of the sample companies, a paired sample t-test was conducted. The test results show that there is indeed a crisis effect in determining the company's funding sources ($t=3.5271$).

The test was carried out in two ways to verify whether changes in asymmetric information impact the company's funding decisions: firstly, by including a dummy crisis in all equations; and secondly, by subsampling data after the financial crisis using data starting in 2010. This study re-tested the full model using the FE and the dynamic two-step GMM estimator.

Table 6 summarises the full model test results for the sample shown in Columns 1 to 6, while the subsample appears in Columns 7 to 12. Overall, testing the entire sample shows that the company's characteristics factors still have a dominant role in determining its funding decisions. Results remain consistent on subsample testing using post-financial-crisis data.

Testing the whole sample and subsample using FE and GMM estimates obtained positive coefficients on book and market leverage and vice versa on equity ratio. The overall results, which are all significant at the 0.01 level, show consistency with the previous test without considering the effect of the crisis. These overall results indicate that asymmetric information still plays a dominant role in determining corporate funding decisions post-crisis.

FURTHER EXAMINATION: ROBUSTNESS CHECKS

Although a series of tests have been carried out, continue to re-test to ensure the test results remain robust. Testing was done by re-performing a subsample based on the 75th percentile of companies with high asymmetric information. This test was carried out on the entire sample and subsample after the crisis. Table 7 summarises the test results. The results of this test are consistent with those presented in Tables 4, 5, and 6.

The test results are not surprising; without exception, it is found that asymmetric information plays a dominant role in determining the source of funding in the company. The test results on company leverage with the book leverage indicator and other alternative tests, namely market leverage, all show a positive coefficient value. Conversely, the test on the decision to use the company's equity shows a negative value. Although varying at the significance level, the overall test results indicate that asymmetric information is essential for Indonesia's funding decisions.

DISCUSSION

As explained in the previous section, this study's main objective is to investigate the relationship between asymmetric information and corporate financing decisions. Considering non-financial companies in Indonesia, the test results presented in Tables 4, 5, 6, and 7 show that company's characteristics factors help explain funding changes. Companies with higher profitability will use lower debt (confirming the pecking order theory). The company's size and age play a significant role in explaining changes to funding decisions. All the test results of this study confirm its hypothesis and previous research (Bhaduri 2015; Bharath et al. 2009; Gao & Zhu 2015; Sony & Bhaduri 2018; 2021), which states that the higher the asymmetric information, the more companies use debt as a funding source. This negative association logic indirectly confirms the pecking order, MM, and agency theories.

TABLE 6. Results dummy crisis and sub-sampling period

	All Sample											
	Book Leverage			Equity Ratio			Market Leverage			Sub Sample		
	FE [1]	GMM [2]	FE [3]	GMM [4]	FE [5]	GMM [6]	FE [7]	GMM [8]	FE [9]	GMM [10]	FE [11]	GMM [12]
Leverage _{t-1}		0.9615*** (0.0559)		0.7063*** (0.0845)		0.8268*** (0.0533)		0.9850*** (0.0221)		0.9347*** (0.0463)		0.8579*** (0.0332)
Spread	0.0732*** (0.0199)	0.0357*** (0.0133)	-0.0678*** (0.0195)	-0.0296*** (0.0107)	0.0686*** (0.0096)	0.0235*** (0.0080)	0.0643*** (0.0195)	0.0485*** (0.0154)	-0.0597*** (0.0193)	-0.0461*** (0.0143)	0.0582*** (0.0101)	0.0233*** (0.0079)
Profit	-0.0169*** (0.0041)	-0.0192*** (0.0030)	0.0156*** (0.0040)	0.0182*** (0.0028)	-0.0028*** (0.0009)	-0.0001 (0.0016)	-0.0131 (0.0144)	-0.0247 (0.0246)	0.0117 (0.0142)	0.0134 (0.0304)	-0.0047 (0.0032)	-0.0023 (0.0029)
Growth	-0.0002*** (0.0000)	-0.0004*** (0.0001)	0.0002*** (0.0000)	0.0003*** (0.0000)	-0.0001*** (0.0000)	-0.0001*** (0.0000)	-0.0003*** (0.0000)	-0.0005*** (0.0000)	0.0003*** (0.0000)	0.0004*** (0.0000)	-0.0001*** (0.0000)	-0.0001*** (0.0000)
Size	-0.0910*** (0.0311)	-0.0013 (0.0025)	0.0831*** (0.0307)	0.0063 (0.0046)	0.0528*** (0.0095)	0.0074*** (0.0019)	-0.1289*** (0.0391)	0.0005 (0.0022)	0.1212*** (0.0382)	-0.0024 (0.0028)	0.0494*** (0.0115)	0.0071*** (0.0018)
Age	0.0018*** (0.0002)	-0.0007** (0.0003)	-0.0017*** (0.0003)	0.0005 (0.0004)	-0.0008* (0.0004)	-0.0003 (0.0004)	0.0016*** (0.0002)	-0.0008*** (0.0003)	-0.0015*** (0.0003)	0.0008** (0.0003)	-0.0006 (0.0004)	-0.0005 (0.0003)
Crisis	-0.1031** (0.0472)	0.0002 (0.0158)	0.1158** (0.0465)	0.0428 (0.0262)	0.0473** (0.0198)	0.0900*** (0.0143)						
Constant	3.1762*** (0.8860)	0.0000 (0.0000)	-1.9826** (0.8730)	-0.1418 (0.1484)	-0.9986*** (0.2701)	0.0000 (0.0000)	4.2704*** (1.1144)	-0.0027 (0.0655)	-3.0809*** (1.0881)	0.0827 (0.0855)	-0.9358*** (0.3293)	-0.0916* (0.0545)
Period effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control Std. Error	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Chow test (p-value)	0.0000	-	0.0000	-	0.0000	-	0.0000	-	0.0000	-	0.0000	-
Hausman test (p-value)	0.0000	-	0.0000	-	0.0000	-	0.0000	-	0.0000	-	0.0000	-
Breusch and Pagan LM test (p-value)	0.0000	-	0.0000	-	0.0000	-	0.0000	-	0.0000	-	0.0000	-
R-squared	0.1219	-	0.1117	-	0.1117	-	0.1546	-	0.1473	-	0.1046	-
AR(1) (p-value)	-	0.000	-	0.001	-	0.000	-	0.000	-	0.000	-	0.000
AR(2) (p-value)	-	0.103	-	0.747	-	0.608	-	0.108	-	0.661	-	0.904
Hansen test (p-value)	-	0.176	-	0.263	-	0.298	-	0.101	-	0.165	-	0.214

Notes: The values in parentheses after presenting the coefficients are robust standard errors. The significance level uses the accentric symbols ***, **, and *, which are equal to the significance levels of 0.01, 0.05, and 0.1, respectively.

TABLE 7. Robustness checks

	All Sample																	
	Book Leverage						Equity Ratio						Market Leverage					
	FE [1]	FE [2]	GMM [3]	GMM [4]	FE [5]	FE [6]	FE [7]	GMM [8]	FE [9]	FE [10]	GMM [11]	GMM [12]	FE [13]	GMM [14]	FE [15]	GMM [16]	FE [17]	GMM [18]
Leverage _{t-1}	0.0311*** (0.0086)	0.0311*** (0.0086)	0.0065*** (0.0032)	0.0173*** (0.0065)	-0.0283*** (0.0085)	-0.0283*** (0.0085)	0.0179*** (0.0043)	0.0164*** (0.0052)	0.0460*** (0.0056)	0.0460*** (0.0056)	0.0281*** (0.0052)	0.0281*** (0.0052)	0.0301*** (0.0082)	0.0185*** (0.0067)	-0.0270*** (0.0083)	-0.0228** (0.0113)	0.0374*** (0.0056)	0.8235*** (0.0420)
Spread	-0.0165*** (0.0041)	-0.0165*** (0.0041)	-0.0218*** (0.0054)	-0.0213*** (0.0055)	0.0152*** (0.0040)	0.0152*** (0.0040)	0.0179*** (0.0043)	0.0164*** (0.0052)	-0.0026*** (0.0009)	-0.0026*** (0.0009)	0.0004 (0.0012)	0.0004 (0.0012)	-0.0127 (0.0145)	-0.0193 (0.0267)	0.0113 (0.0144)	0.0118 (0.0216)	-0.0042 (0.0032)	0.0176*** (0.0055)
Profit	-0.0002*** (0.0000)	-0.0002*** (0.0000)	-0.0004*** (0.0000)	-0.0004*** (0.0000)	0.0002*** (0.0000)	0.0002*** (0.0000)	0.0004*** (0.0000)	0.0004*** (0.0000)	-0.0001*** (0.0000)	-0.0001*** (0.0000)	-0.0001*** (0.0000)	-0.0001*** (0.0000)	-0.0003*** (0.0000)	-0.0005*** (0.0000)	0.0003*** (0.0000)	0.0004*** (0.0000)	-0.0001*** (0.0000)	-0.0001*** (0.0000)
Growth	-0.0967*** (0.0316)	-0.0967*** (0.0316)	-0.0925 (0.0030)	0.0016 (0.0031)	0.0885*** (0.0311)	0.0885*** (0.0311)	0.0060 (0.0045)	-0.0018 (0.0029)	0.0524*** (0.0097)	0.0524*** (0.0097)	0.0138*** (0.0024)	0.0138*** (0.0024)	-0.1325*** (0.0393)	0.0010 (0.0029)	0.1248*** (0.0384)	-0.0050 (0.0051)	0.0490*** (0.0117)	0.0106*** (0.0024)
Size	0.0017*** (0.0002)	0.0017*** (0.0002)	-0.0006*** (0.0002)	-0.0006*** (0.0002)	-0.0015*** (0.0003)	-0.0015*** (0.0003)	0.0006 (0.0003)	0.0006 (0.0003)	-0.0010** (0.0004)	-0.0010** (0.0004)	-0.0006 (0.0006)	-0.0006 (0.0006)	0.0014*** (0.0002)	-0.0006** (0.0003)	-0.0013*** (0.0003)	0.0006* (0.0004)	-0.0008** (0.0004)	-0.0010 (0.0007)
Age	-0.1190** (0.0489)	-0.1190** (0.0489)	0.0023 (0.0172)	0.0023 (0.0172)	0.1300*** (0.0481)	0.1300*** (0.0481)	0.0141 (0.0154)	0.0141 (0.0154)	0.0153 (0.0208)	0.0153 (0.0208)	0.0659*** (0.0145)	0.0659*** (0.0145)	0.0002 (0.0145)	0.0003 (0.0145)	0.0003 (0.0145)	0.0003 (0.0145)	0.0004 (0.0145)	0.0004 (0.0145)
Crisis	3.2934*** (0.9007)	3.2934*** (0.9007)	0.1131 (0.0938)	-0.0301 (0.1052)	-2.0964** (0.8862)	-2.0964** (0.8862)	-0.1393 (0.1383)	-0.1393 (0.1383)	-1.0665*** (0.2772)	-1.0665*** (0.2772)	-0.3283*** (0.0796)	-0.3283*** (0.0796)	4.3229*** (1.1222)	0.0000 (0.0000)	-3.1391*** (1.0959)	0.2433 (0.1763)	-0.9907*** (0.3368)	0.0000 (0.0000)
Constant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Period effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control Std. Error	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Chow test (p-value)	0.0000	0.0000	-	-	0.0000	0.0000	-	-	0.0000	0.0000	-	-	0.0000	-	0.0000	-	0.0000	-
Hausman test (p-value)	0.0000	0.0000	-	-	0.0000	0.0000	-	-	0.0000	0.0000	-	-	0.0000	-	0.0000	-	0.0000	-
Breusch and Pagan LM test (p-value)	0.0000	0.0000	-	-	0.0000	0.0000	-	-	0.0000	0.0000	-	-	0.0000	-	0.0000	-	0.0000	-
R-squared	0.1150	0.1150	0.110	0.109	0.1053	0.1053	0.092	0.092	0.1185	0.1185	0.0671	0.0671	0.1502	0.104	0.1429	0.0683	0.1090	0.889
AR(1) (p-value)	-	-	0.000	0.000	-	-	0.001	0.000	-	-	0.000	0.000	-	0.000	-	0.001	-	0.000
AR(2) (p-value)	-	-	0.110	0.109	-	-	0.692	0.654	-	-	0.671	0.671	-	0.104	-	0.683	-	0.889
Hansen test (p-value)	-	-	0.103	0.534	-	-	0.125	0.209	-	-	0.233	0.192	-	0.405	-	0.123	-	0.173

Notes: The values in parentheses after presenting the coefficients are robust standard errors. The significance level uses the accentric symbols ***, **, and *, which are equal to the significance levels of 0.01, 0.05, and 0.1, respectively.

The lack of information, coupled with the different investment behaviour of foreign and domestic parties in emerging markets, such as Malaysia (Omay & Iren 2019) and Indonesia (Satrio 2022b), can cause companies to be careful in determining the source of funding. Companies facing higher asymmetric information problems will use more funding from debt than from equity issuances (Bhaduri 2015; Sony & Bhaduri 2018; 2021). The company, in this case, considers the burden and risk arising from the funding source (pecking order theory [Myers & Majluf 1984]). Using debt with consideration of this funding source can have benefits that cannot be obtained from issuing equity (after-tax MM theory [Modigliani & Miller 1963]).

According to the corporate governance literature, information inequality is caused by adverse selection. To overcome the poor quality of information, the principal can indirectly press management to increase funding from debt. Even though the additional debt is not free from new problems in the form of a third type of agency conflict, this addition benefits the company. Additional debt can reduce the first type of agency conflict because increased debt in companies causes increased monitoring by external parties (Ganguli 2013), which can improve corporate governance.

Companies with higher asymmetric information will face higher capital costs from equity. The addition of equity is the least preferred alternative (pecking order theory), which can also be explained through equity market timing theory and the rent-seeking or rent-protection hypothesis. The company's equity in an undervalued condition causes expensive financing decisions that should be avoided (market timing theory). The rent-seeking or rent-protection hypotheses' logic is that old shareholders dislike having their share of ownership eroded by debt issuance. Issuing debt is the best way to maintain the ownership portion of the previous shareholder. Furthermore, when referring to efforts to signal to the public, the company must pay dividends to the public so that the company's internal funding sources are not the only reliable source of corporate funding.

THEORETICAL IMPLICATION

There are at least three main theories that form the basis of this study, namely agency theory (Berle & Means 1933; Jensen & Meckling 1976), after-tax MM theory (Modigliani & Miller 1963), and pecking order theory (Myers & Majluf 1984). This study found that the more serious the information gap, the more careful the management decisions in determining funding sources. The worse the information gap, the more companies prefer external funding sources in the form of debt. This study confirms that the hierarchy of funding decisions (Myers & Majluf 1984) and consideration of the benefits of using debt (Jensen & Meckling 1976; Modigliani &

Miller 1963) still exist in developing country capital markets, at least in the Indonesian context.

PRACTICAL IMPLICATION

This study provides evidence of information quality and choice of funding sources today. Management will behave rationally when the company faces the problem of highly asymmetric information, namely through the issuance of debt and not equity. This study provides insight for companies and regulators in emerging markets to help them ensure the quality of information conveyed to the public.

CONCLUSION

This investigation provides crucial insights and empirical evidence, given the complexity of making funding decisions when the problem of information asymmetry is severe, and the continuing lack of up-to-date evidence in this area. This study aims to provide recent empirical evidence of asymmetric information relations and management behaviour in response to this issue. The results show that company management in Indonesia prefers debt as a funding source when there is a growing problem of asymmetric information. This result is logical, considering the company will look for low-risk alternative funding. Furthermore, companies with information inequality problems must choose debt as a funding source to signal to the public regarding creditors' trust.

This study contributes to policymakers and enriches this field's literature in several ways. For policymakers, especially the government, this study provides additional evidence regarding the importance of information quality. Regulations regarding corporate governance and transparency must be strengthened in developing countries, including Indonesia. This study provides robust information regarding the relationship between information quality and corporate funding decisions for future studies. This study contributes to the literature by providing an overview of the causes of changing funding decisions in environments with weak investor protection and the context of asymmetric information on different companies.

However, there are issues left for future studies. The findings in this study clearly show that the higher the asymmetric information the company faces, the higher its use of debt. The results of this study open up opportunities for investigations related to information inequality and funding decisions based on the rent-seeking hypothesis considering inefficient and pyramidal forms of ownership in developing countries. Future studies can also explore the ease of obtaining peer-to-peer funding with due observance of related regulations and considering corporate governance issues.

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