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FIRM CHARACTERISTICS, FINANCIAL MARKET AND MACRO ECONOMIC DETERMINANTS OF CAPITAL STRUCTURE: INDONESIAN EVIDENCE

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ABSTRACT

Capital structure is combination of debt and equity that is used by firms as the financial sources. The capital structure has correlation with financial distress and bankruptcy, so it is important for firms to decide the capital structure on a safe level. The studies on determinants of capital structure have been developing and the new evidences had shown that capital structure is affected by not only firms' internal factors, but also external factors. The purpose of this study was to identify the determinants of firm's capital structure in Indonesia, in study internal and external factors of firm, such as firm characteristics, financial market and macroeconomic conditions. This study used data from 158firms (non-financial) listed in Indonesia Data Exchange (IDX) during 2005-2014. System-GMM (generalized method of moments) as the latest development of dynamic panel data regression was used to estimate the regression equation. The empirical results showed that firm characteristics, financial market and macroeconomic conditions have significant effect on the capital structure. These results have practical implications to the corporate managers, investors, policymakers and government.

INTRODUCTION

The capital structure of a firm is a specific mixture of debt and equity the firm uses to finance its operations (Abor, 2007a). The objective of managing capital structure is to mix the financial sources used by the firm in a way that will maximize the shareholders' wealth and minimize the firm's cost of capital (Tong, 1999). Baser *et al*. (2012) reported that capital structure decisions are vital for the financial soundness of the company. Inappropriate decisions about the capital structure may lead to financial distress and eventually to bankruptcy. Pranowo *et al*. (2010) also showed that financial distress has correlation with leverage (level of debt) in emerging markets, especially Indonesia. The theories of capital structure have been developing from many perspectives and assumptions that areopposite to each other in nature. However, until now, none can exactly explain how to optimize the use of capital structure (Gaud *et al.*, 2004; Graham and Harvey, 2001).

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The new evidences of the studies about determinants of capital structure have shown that the capital structure is affected by not only firms' internal factors, but also external factors, such as the financial market and macroeconomic conditions (Demirguc-Kunt and Maksimovic, 1996, 1999; Gallego and Loayza, 2000; Agarwal and Mohtadi, 2004; Kyaw, 2004; Fan *et al*., 2010; Doku *et al*., 2011; Yartey, 2011; Le and Ooi, 2012; Bayrakdaroglu *et al*., 2013; Lemma and Negash, 2013; Yartey and Abor, 2013; and Majumdar, 2014). Therefore, even though the types of firms or industries are the same, the capital structure among them will be different due to the differences in countries' condition. Several studies in Indonesia had been done about the determinants of capital structure, such as Gunawan (2009), Subagyo (2009), Rivai (2011), Munawar (2012), Hardiyanto *et al.* (2013, 2014a,b), Sitorus *et al.*(2014) and Yoshendy *et al.* (2015). The most study used factors from the internal aspect of firms as the subjects. The studies that investigate the external factors as the effect on capital structure are limited. For the financial market factors which have an enormous effect on capital structure, there is no published research done in Indonesia to date. Based on those facts, this study has a purpose to analyze not only internal factors that

affect firm's capital structure in Indonesia, but also external factors. The internal factors are firm characteristics and the external factors are financial market and macroeconomic conditions.

Literature Review

Theories of Capital Structure

The theory of modern capital structure was first introduced by Modigliani and Miller in 1958, known as the MM I theory. Mostarac and Petrovic (2013) explained that MM I theory is based on the assumption that the value of a firm is not affected by its capital structure. It can be concluded that however the capital structure, will not affect the firms' value, so there is not optimal capital structure. The fact is, the assumption of the MM I theory is on the perfect market situation that will not happen in the real situation, thus this theory cannot be accepted. MM I theory then be developed as MM II theory in 1963 by adding tax factor. The MM II theory is based on assumption that capital structure affects the firm's value by the existing of the tax payment savings. The firm could use debt up to 100% because payment of debt interest could reduce the value of tax payments. The MM II theory is also irrelevant to the current conditions, because the theory does not consider the risk of debt. Although MM I and MM II theories are irrelevant, both theories paid contribution to the development of further theories of capital structure, such as trade-off theory and pecking order theory. Contrary to MM II, trade-off theory gives much consideration on bankruptcy cost. Trade-off theory assumes that optimum capital structure is determined by a trade-off between benefits and costs of debt (Lemma and Negash, 2013; Acaravci, 2015). Instead, the pecking order theory rejects the existence of an optimal capital structure and argues that firms normally follow a pecking order in corporate finance, that is, preferring internal funding instead of external funding and preferring debt funding instead of equity funding (Alipour *et al*., 2015).

In 1976, Jensen and Meckling developed a theory of capital structure from different perspectives, known as the agency theory. They argued that even if there are no taxes, an optimal capital structure can still be obtained by trading off the agency costs of debt and the benefits of debt. Optimal capital structure is determined by the agency cost from the conflict between equity holders and managers and conflict between debt holders and equity holders (Chahyadi, 2008). Another theory of capital structure is signaling theory, proposed by Ross in 1977. The signaling theory is based on the problem of information asymmetry between managers and investors. This theory asserts that debt financing signals investors about firms' cash flow, as managers sometimes use changes in the capital structure to communicate the risks and profitability of firms to external users (Alipour *et al.*, 2015). The latest development of capital structure theory was suggested by Baker and Wurgler in 2002, known as market timing theory. They argued that capital structure is the cumulative outcome of attempts to time the equity market (Zhang, 2006). According to this theory, share price fluctuations should have an effect on a firm's capital structure and there is no optimal capital structure. Moreover, this theory indicates that firms issue debt and equity securities only when their market value is in a good condition, and when their market value is lower, they repurchase their shares (Alipour *et al.*, 2015).

Determinants of Capital Structure

*Firm characteristic*s

Firm characteristics are the firm's internal factors that can be controlled directly by the firm. The previous studies showed that firm size and tangibility are the firm characteristics that have different significant effect on capital structure. Firm size illustrates the diversity of business activities associated with the level of risk. According to the trade-off and agency theories, firms with larger size (larger total assets) can have higher debt than the smaller firms. It means the firm size has positive effect on the capital structure. This view is supported by studies done by Rajan and Zingales (1994), De Haas and Peeters (2006), Abor (2007a,b, 2008), Gunawan (2009), Subagyo (2009), Fan *et al*. (2010), Al-Najjar and Hussainey (2011), Chen and Chen (2011), Sheikh and Wang (2011), Le and Ooi (2012), Sabir and Malik (2012), Bayrakdaroglu *et al*. (2013), Lemma and Negash (2013), Mostarac and Petrovic (2013), and Hardiyanto *et al*. (2013, 2014a). Instead, the pecking order theoryargues that firm size is related to the level of profits obtained by firms. The larger firm will earn higher and more stable profit, so its availability of internal fund is bigerthan the smaller firm. This view is supported by the results of previous studies done by Doku *et al*. (2011), Rivai (2011), Yartey (2011), Masnoon and Anwar (2012), and Acaravci (2015).

Tangibility is also associated with the level of risk.According to the trade-off theory and agency theory, tangibility has positive effect on the capital structure. Tangible assets (fixed assets) suffer a smaller loss of value when firms go into distress. Hence, firms with more tangible assetsshould have higher debt compared to those that have more intangible assets (Miglo, 2013). This view is supported by the results of previous studies done by Rajan and Zingales (1994), Abor (2007b), Seppa (2008), Gunawan (2009), Fan *et al*. (2010), Al-Najjar and Hussainey (2011), Doku *et al*. (2011), Rivai (2011), Le and Ooi (2012), Masnoon and Anwar (2012), Munawar (2012), Sabir and Malik (2012), Lemma and Negash (2013), Mostarac and Petrovic (2013), and Majumdar (2014). Instead, the pecking order theory suggests that tangibility has negative effect on the capital structure. Firms with high fixed assets may be said to be experiencing stability in their earnings, therefore, they are capable of generating funds internally and would avoid external debt finance (Abor, 2008). This view is also supported by the previous studies done by Gallego and Loayza (2000), Nishioka and Baba (2004), De Haas and Peeters (2006), Abor (2008), Sheikh and Wang (2011), Yartey (2011), Bayrakdaroglu *et al*. (2013), Yartey and Abor (2013), Hardiyanto *et al*. (2013, 2014a), Acaravci (2015), and Yoshendy *et al*. (2015).

Market to book ratio (MBR) is also the firm characteristic that have significant effect on the capital structure, but still rarely examined. The MBR describes a chance for the firm to grow (growth opportunities). According to the pecking order theory, MBR has positive effect on the capital structure. The high MBR creates opportunities for firms to do larger investment,

so they may require additional funds from external, especially through debt, because the availability of the internal funds is relatively limited. This view is supported by the previous studies done by Al-Najjar and Hussainey (2011), Le and Ooi (2012), and Acaravci (2015). The trade-off theory, agency theory, and market timing theory show contradictory ideas that the MBR has negative effect on the capital structure. The trade-off theory and agency theory assume that growth firms tend to lose more of their value than non-growth firms when they go into distress, so that the risk of bankruptcy will increase (Miglo, 2013). This condition causes the firms to not make any debt, and the lenders will also be reluctant to give debt. The theory of market timing suggests that while the firm's growth opportunities are increasing, the return on shares is also increasing because of rising shares prices. The firm then will issue new shares or convert debt into shares, so the use of the equity will increase compared to the use of debt (Kayhan, 2004). This is supported by the previous studies done by Rajan and Zingales (1994), Nishioka and Baba (2004), Gunawan (2009), and Fan *et al*. (2010). From the aforementioned explanations, this study uses firm size, tangibility and market to book ratio variables as the firm characteristics that are assumed to affecting the firm's capital structure.

Financial market

Mishkin (2007) reported that the financial market has an important role on economy by allowing funds to keep flowing from the people who do not have chances to productively invest it to the people who have the chances. Financial market is very important to allocate capital more efficiently, which creates big funds to the production and economy. The financial market development will become special attentions for firms to decide their capital structure, because through financial market, firms can get external funding such as banking loans, bonds and stocks. Fan *et al.* (2010) showedthat the firm's capital structure in both developed and developing countries,is not only affected by the firm characteristics, but also by the financial markets conditions, such as the banking sector and bond market development. Agarwal and Mohtadi (2004); Doku *et al*. (2011); Lemma and Negash (2013) also showed that the financial markets, such as the banking sector and stock market development will affect firm's capital structure. Yartey and Abor (2013) have specifically done research in emerging markets and showed that the banking sector and the stock market have effect on the firm's capital structure. Moreover, Gallego and Loayza (2000) reported that the financial markets, such as the banking sector, bond market and stock market haveeffect on the firm's capital structure. The findings are also supported by Le and Ooi (2012) that showedthe development of financial markets, namely the banking sector, bond market and stock market will affect the firm's capital structure in the developed and developing countries.

This study uses the developments of banking sector, bond market and stock market that illustrate the financial markets conditions as the determinants of firm's capital structure. The development of the banking sector is represented by the size and the level of fund distribution activities of the banking sector. The development of the bond market is represented by the size and the value of corporate bond traded. The development of the stock market is represented by the size and value of shares traded.

Macroeconomic

Macroeconomic conditions should have an impact on firms' capital structure choice. When operating cash flows and business risk depend on current economic conditions, firms should adjust their capital structure decisions to economies' business cycle phase. A slowdown in economic activities generates some variations in the value and dynamic of future cash flows that can easily lead to major financial problems. Volatility of earnings increases, so the debt tax advantages are diminished, if even exist. The downturn in profitability is also inevitable, which increases the business risk. When operating cash flows and business risk depend on current economic conditions, firms should adjust their capital structure decisions to economies' business cycle phase (Mostarac and Petrovic, 2013). Kyaw (2004) argued that country effects are more important than industry sector effects in influencing firm's capital structure. Fan *et al.* (2010) showed that the firm's capital structure in developing and developed countries is affectedby the macroeconomic condition. Furthermore, the study done by Lemma and Negash (2013) also supportedthe argument, that the macroeconomic conditions have effect on the firm's capital structure in African countries. Bayrakdaroglu *et al.* (2013) also showed that firm's capital structure is affected by macroeconomic conditions of a country, not onlyaffected by firm characteristics. Macroeconomic conditions thought to have effect on the firm's capital structure in this study are GDP growth and inflation rate. High economic growth that represented by the increase in GDP growth indicates a good business condition.It will make firms be confidence to develop their investment which certainly demands higher costs. Hence, there is a necessity for firms to think about the financing pattern associated with the increase in economic growth. The persistently rising inflation may threaten sustainability of the business activities as it causes a decrease in the real value of the firm's assets.It increases the risk of the firms to choose external financing, either through debts, bonds or shares.

Research Hypotheses

Based on the previous studies and the theories of capital structure which have varying and different views about determinants of capital structure, the hypotheses in this study cannot be drawn uniformly, but according to the assumptions of several capital structure theories, i.e. trade-off theory, pecking order theory, signaling theory, agency theory and market timing theory.The theoretical hypotheses can be seen in Table 1.

MATERIALS AND METHODS

The firms studied are non-financial firms which listed in Indonesia Data Exchange (IDX) during 2005 to 2014, totalling 158 firms. The firms are from eight industrial sectors, namely the agricultural; mining; basic and chemicals; miscellaneous industry; consumer goods; property, real estate, and building construction; infrastructure, utilities, and transportation; trade,

services, and investment. The data used are secondary data such as firms' financial reports, financial markets data, and macroeconomic data in 2005-2014 obtained from IDX and World Bank. The model of this study is a dynamic panel data regression that includes lag of dependent variable as the regresor in the regression.This modelis adopted fromstudies done by Demirguc-Kunt and Maksimovic (1999), Gallego and Loayza (2000), Agarwal and Mohtadi (2004), De Haas and Peeters (2006), Fan *et al*. (2010), Doku *et al*. (2011), Lemma and Negash (2013), and Yartey and Abor (2013), as follows:

$$DER_{it} = \alpha_0 + \alpha_1 DER_{it-1} + \alpha_2 SIZE_{it} + \alpha_3 TANG_{it} + \alpha_4 MBR_{it} + \alpha_5 M2_t + \alpha_6 DCP_t + \alpha_7 BOND_t + \alpha_8 VBT_t + \alpha_9 MC_t + \alpha_{10} VST_t + \alpha_{11} GDPgrw_t + \alpha_{12} INF_t + e_{it} \quad (1)$$

where *DER* is a measure of capital structure (total debt/total equity ratio);$DER_{it-1}$is capital structure of the previous year;*SIZE* is firm size (log of total assets);*TANG* is tangibility (fixed assets/total assets ratio);*MBR* is market to book ratio as a measure of firm growth opportunity (market value of shares/book value of shares);*M2* is percentage of money and quasi money to GDP as a measure of the size of banking sector;*DCP* is percentage of domestic credit to private sector to GDP as a measure of activity of the bank lending to the private sector;*BOND* is percentage of total corporate bond to GDP as a measure of the size of corporate bond market;*VBT* is percentage of total value of corporate bond traded to GDP as a measure of corporate bond trading activity;*MC* is percentage of market capitalization to GDP as a measure of the size of stock market;*VST* is percentage of total value of shares traded to GDP as a measure of shares trading activity;*GDPgrw* is real GDP growth rate;*INF* is inflation rate (based on consumer price index); *e* is error term; *i* is cross section of firms; and *t* is time series.

RESULTS

Descriptive Statistics

The sample

The composition of the firms studied in every industrial sector in IDX can be seen in Table 2. The table shows that the basic and chemicals industry is the sector that has the highest percentage of the total sample with 24.05 per cent, followed by the trade, services, and investment (21.52 per cent), consumer goods (15.82 per cent), miscellaneous industry (14.56 per cent), then property, real estate, and building construction(12.03 per cent). Mining industry is the least represented with only3.16 per cent of the total sample.

The variables

Descriptive statistics summary of the average (mean), minimum, maximum and standard deviation values of the dependent and independent variables over the period of 2005-2014 can be seen in Table 3.The table shows that the average of the debt to equity ratio for these ten years is 1.43, which indicates that the firms use a greater debt than equity as the financing source. The average of firm size, tangibility, and firm growth opportunity are 7.28, 32 per cent, and 2.25 respectively. The average of the size of banking sector is 39.29 per cent, which is slightly smaller than the size of stock market that is 39.84 per cent. The average of the domestic credit to private sector is 27.23 per cent, greater than the shares trading activity that is 13.03 per cent. The average of the size of corporate bond market is much smaller than the size of other financial markets, with only 1.91 per cent, as well as the average of the corporate bond trading activity with only 1.37 per cent.

Table 1. Theoretical hypotheses of the determinants of capital structure

Determinant Factors	Theoretical Hypotheses				
	Trade-off	Pecking Order	Agency	Signaling	Market Timing
Firm Characteristics:					
Firm size (SIZE)	+	-	+		
Tangibility (TANG)	+	-	+		
Firm growth opportunity (MBR)	-	+	-		-
Financial Markets:					
Size of banking sector (M2)	+		+		
Domestic credit to private sector (DCP)	+		+		
Size of corporate bond market (BOND)			+ / -	+	
Corporate bond trading activity (VBT)			+ / -		
Size of stock market (MC)	-				+ / -
Shares trading activity (VST)	-				+ / -
Macroeconomic:					
GDP growth (GDPgrw)	+		+		-
Inflation rate (INF)	-		-		+

Table 2. Descriptive summary statistics of the sample

Industrial sector	Observations	Proportion (%)
Agricultural	6	3.80
Mining	5	3.16
Basic and chemicals	38	24.05
Miscellaneous industry	23	14.56
Consumer goods	25	15.82
Property, real estate, and building construction	19	12.03
Infrastructure, utilities, and transportation	8	5.06
Trade, services, and investment	34	21.52
Total	158	100.00

The average of the economic growth (GDP growth) is 5.72 per cent, where as the inflation rate is 7.21 per cent.

Tests of Unbiasedness, Validity and Consistency

Amodel of the dynamic panel data regression, called System-GMM (generalized method of moments) requires an estimator to be unbiased, valid and consistent. The unbiased estimator is tested by looking the coefficient of first lag (*Lag-1*) of the dependent variable. The valid estimator is tested by Sargan test of over-identifying restrictions. The consistent estimator is tested by Arellano-Bond test that average autocovariance in residuals of order 1 (m_1) and order 2 (m_2) (Baltagi, 2005).The unbiasedness test can be seen in Table 4, while validity and consistency test can be seen in Table 5.

Table 3. Descriptive summary statistics of the variables

Variables	Mean	Minimum	Maximum	Standard deviation
Debt to equity ratio (DER)	1.4293	0.0024	21.7500	1.6755
Firm size (SIZE)	7.2800	2.3979	12.3717	1.6326
Tangibility (TANG)	0.3156	0.0001	0.9070	0.2094
Firm growth opportunity (MBR)	2.2468	0.0900	167.5600	5.7841
Size of banking sector (M2)	39.2894	36.0017	43.3540	2.1788
Domestic credit to private sector (DCP)	27.2344	23.8680	33.0158	3.1767
Size of corporate bond market (BOND)	1.9114	1.4753	2.2911	0.2568
Corporate bond trading activity (VBT)	1.3680	0.6930	1.9458	0.4196
Size of stock market (MC)	39.8402	19.3561	48.9784	9.0607
Shares trading activity (VST)	13.0312	9.7453	21.9599	3.6095
GDP growth (GDPgrw)	5.7209	4.6289	6.3450	0.5266
Inflation rate (INF)	7.2137	4.2795	13.1094	2.7563

Note: All variables are using 158 observations during 2005-2014 (balanced data)

Table 4. Result of unbiasedness test

	Coefficient		
	System-GMM	PLS	FEM
derL1 (DER_{t-1})	0.7333192	0.8355888	0.5788671

Table 5. Results of validity and consistency tests

Validity test (Sargant test)	Prob >*chi2*	
	0.0910	
Consistency test (Arellano-Bond test)	Prob >*z*	
	m_1	0.0017
	m_2	0.7187

Table 6. Regression results (Determinants of capital structure)

Variables	Coefficient	Standard Error	z-value	Probability
Firm size (SIZE)	0.4338425*	0.0456124	9.51	0.000
Tangibility (TANG)	-0.1356653	0.1982067	-0.68	0.494
Firm growth opportunity (MBR)	0.0807953*	0.0011552	69.94	0.000
Size of banking sector (M2)	-0.0386481**	0.0194834	-1.98	0.047
Domestic credit toprivate sector (DCP)	0.0292447**	0.0136656	2.14	0.032
Size of corporate bond market (BOND)	1.47188*	0.3676524	4.00	0.000
Corporate bond trading activity (VBT)	-1.213357*	0.3017256	-4.02	0.000
Size of stock market (MC)	-0.0091395*	0.0013465	-6.79	0.000
Shares trading activity (VST)	0.0426663 *	0.0103356	4.13	0.000
GDP growth (GDPgrw)	0.4200599 *	0.0965383	4.35	0.000
Inflation rate (INF)	0.0260663 *	0.0078736	3.31	0.001
DER previous year (DER_{t-1})	0.7333192*	0.0113583	64.56	0.000
Constant	-6.20587*	0.8885883	-6.98	0.000

Notes: * = significant at α = 1%; ** = significant at α = 5%; this table reports regression results for DER (capital structure) using System-GMM.

The unbiased estimator is tested by comparing the coefficient of derL1 from the System-GMMmodel, PLS (pooled least square) model, and FEM (fixed effect model). The estimator of System-GMM model is unbiased if the coefficient value of derL1 is between the coefficient value of derL1 from PLS model and FEM model. Table 4 shows that the coefficient value of derL1 from the System-GMM model (0.7333192) is between the coefficient value of derL1 from the PLS model (0.8355888) and coefficient value of derL1 from the FEM model (0.5788671). It means that the estimator used in this research is unbiased. Sargan test is used for the validity test.The estimator will be valid if Sargan test does not reject the null hypothesis (H_0 : *probability > chi2*). Table 5 shows the probability value is 0.0910 (> 5%), meaning it does not reject the null hypothesis, so the estimator is valid. Consistency test is done by looking at the probability value of *m1* and *m2* statistics by Arellano-Bond. This requires that the estimator is consistentif the probability valueof *m1* rejects the null hypothesis and *m2* does not reject the null hypothesis (H0: probability > z). Table 5 shows that *m1* (0.0017) rejects the null hypothesis, while *m2* (0.7187) does not reject the null hypothesis (> 5%), so that the estimator is consistent.

Regression Results

The regression results of the equation (1) that describes the hypotheses testing of the determinants of capital structure can be seen in Table 6.The table shows that the variables of the firm characteristics (SIZE and MBR), the financial markets (M2, DCP, BOND, VBT, MC and VST), and the macroeconomics (GDPgrw and INF) have significant effect on the capital structure (DER). Thetangibility (TANG) has no significant effect on the capital structure. The DER of the previous year (DER_{t-1}) haspositive significant effect on the DER this year. It shows that the capital structure this year is also affected by the capital structure in the previous year. The coefficient value of DER_{t-1} indicates the speed of adjusment of the capital structure. The coefficient value of the $DER_{t-1}$is 0.733. It ranges between zero (0) and one (1), showing the capital structure tend to be convergent (moving towards unity) and firms are trying to adjust their target of capital structure at a particular level.

DISCUSSION

Firm Characteristics

Firm size (SIZE) has positive significant effect on the DER, meaning that if the size of a firm be larger, the level of debt using will be higher also. The result of this study is accordance with the hypotheses of the trade-off theory and the agency theory. It show that the largerfirm tends to have more diverse business activities and lower risk, so that the higher level of debt using is possible for larger firms. The larger firms will more easily to raise funds through the debt because of the high amount of assets. Firm growth opportunity (MBR) has positive significant effect on DER, meaning that if the opportunity of firm to grow is becoming greater, the use of debts will be more increase than the equity. This result is consistent with the hypothesis of pecking order theory. Firms with high growth opportunity tends to increase their business activity. It results small earnings because of the higher cost of the business activities. This causes the firms to use external funding, and the first alternative is through debt.

Financial Markets

Size of banking sector (M2) has negative significant effect on the DER. This shows that if the size of banking sector is larger, the debt using of firms will be lower, and the equity will be higher. The increase in banking size is caused by the increase in money supply, triggering to the excess money supply as money demand remains in the public. This condition encourages people to use the surplus money to invest in capital market, especially in the stock market, so the shares price increases. Firms then use the such situation by issuing shares, so that the level of equity increases than the debt. The result of this study is supported by previous studies done by Demirguc-Kunt and Maksimovic (1999) and also Lemma and Negash (2013). Domestic credit to private sector (DCP) has positive significant effect on the DER, which means that when banks increase their lending activity to the private sector, the debt level of firms will increase also. It is consistent with the hypotheses of trade-off theory and agency theory. The increase in the bank lending to the private sector indicates ease of access for firms to apply loan. It means the agency cost is lower, so the firms can increase their external funding through debt. This finding is supported by previous study done by Gallego and Loayza (2000). Size of corporate bond market (BOND) has positive significant effect on the DER, so if the corporate bond market does increase, the debt of firms will be increase also. The agency theory argues that larger bond market could improve efficiency in this market, so it will reduce agency conflict among parties in the firms and investors. Investors will be more confident to invest money in this market, so the firms can get external funding by issuing bonds. The result of this study also supports the signaling theory that higher debt is a positive signal for the market to tell the good prospects of firms in the future. The firms that issue bonds may have a good business prospects because they want to take the risk of the high coupon rate. The finding supports the previous studies done by Gallego and Loayza (2000), Le and Ooi (2012), and also Yartey and Abor (2013). Corporate bond trading activity (VBT) has negative significant effect on the DER. This indicates that the higher corporate bond trading activities are, the lower the use of debt will be. This study shows adverse selection problems of the agency conflict between firms and investors. Adverse selection problems arise when market condition is less efficient. The corporate bond market in Indonesia is less efficient because it does not been well developed and too smaller than the other financial markets (banking sector and stock market). The small size of the corporate bond market contributes to the low liquidity, so investors who only target capital gains are less interested in having the bonds yield to maturity. On a less efficient market condition, an increase in bond trading activities is usually triggered by a decrease in the coupon rate which causes the bonds market price increase. The market price increasing is utilized by investors toget capital gains and they do not interest to the new bonds because of the lower coupon rate. The decrease of the debt may caused by the repayment of old bonds. This finding supports previous study done by Gallego and Loayza (2000).

Size of stock market (MC)has negativesignificanteffect onthe DER. This shows that the larger size of the stock market is, the use of equitywill decrease. This finding is consistent with the hypotheses of trade-off and market timing theories. The increase in the stock market size strongly leads to the fact that the market condition is good and profitable, thus allowing greater benefit for firms to obtain funding through issuing shares.Previous studies that support this resultisdone by Demirguc-Kunt and Maksimovic (1996), Gallego and Loayza (2000), Agarwal and Mohtadi (2004), Le and Ooi (2012), as well as Yartey and Abor (2013). Shares trading activity (VST) has positive significanteffect on the DER, so if the shares trading activity increases, the firms will increasethe use of debtthan equity. The finding is consistent with the hyphotesis of market timing theory. The theory argues that shares trading activities can bring either a positive or negative effect to the capital structure. Demirguc-Kunt and Maksimovic (1996) explained that the effect of stock market development, namely the size and the trading activity (liquidity) on the capital structure, is ambiguous, depends on the initial level of the stock market development. By providing better information and decreasing monitoring costs for investors and financial intermediaries, stock market lower the cost of both external

debt and external equity. It causes the stock market development has either positive or negative effect on the capital structure, depending on the level of the stock market development, either in the size or the liquidity. Shares trading activities in Indonesia are still reported to be low with an average of 13% of the total GDP during 2005-2014. According to the view proposed by Demirguc-Kunt and Maksimovic (1996), this condition causes debt and equity to be complementary to one another, not as a substitution. It then explains why the increase in shares trading activities will be followed by the increasein debt. The finding of this study is supported by previous studies done by Demirguc-Kunt and Maksimovic (1996, 1999).

Macroeconomic

GDP growth (GDPgrw) has positivesignificanteffect onthe DER, so that if economic growth is increasing, the firm will increase the use of debt than the equity. The finding is consistent with the hypothesesof the trade-off and agency theories. High economic growth will positively impact the firms' business activities and provide greater investment opportunities for the firms. It lowers the risk of bankruptcy in the future. Trade-off theory has view that the low risk as the opportunities for the firms to increase external funding through debtto support their business expansion. Agency theory also argues that in a good economic condition, characterized by an increase in GDP growth, the lender will have better trust to the firms. The result of this study supports previous studies that done by De Haas and Peeters (2006) and also Subagyo (2009).
Inflation rate (INF) has positive significant effecton the DER, so if inflation increases, the level of debt using will also increase. It is consistent with the hypothesis of market timing theory. The increase in inflation rate reflects the worsening economic condition, and therefore, the firms will avoid financing through securities, especially is shares because it has the greatest risk. The badly economic condition will affect the performance of the stock market, causing shares prices to decline due to low demand for shares (the number of investors decreases).It is also caused by the poor condition of the firms. Inflation decreases the market value of the firms' equity, while the value of debts remains. Inflation also triggers to low buying power of the public that decline the firms' sales. The decline in sales, coupled with high production costs, lead to decline in profit or even a loss. These things cause the level of debt increase. The finding supports previous studies done by the De Haas and Peeters (2006), Fan *et al*. (2010), Le and Ooi (2012), and also Lemma and Negash (2013).

Conclusion

The results of this study show that the firm characteristics, financial markets and macroeconomic conditions have significant effect on the firm's capital structure. It proves that the firm's capital structure in Indonesia is not only affected by internal factors such as firm characteristics, but also affected by external factors such as financial market and macroeconomic conditions.

Implications of The Study

The dynamic changes in the firm's internal and externalfactorsdemand a dynamic capital structure changes as well.The capital structure is closely related to the risk of financial distress and bankruptcy. Corporate managers must always be careful to decide the capital structure by looking not only the firm characteristics,but also the financial market and macroeconomic conditions.Investors, particularly those in the stock market that expect dividends and those in the bond market who plan to hold the bond to maturity, must be more sensitive to the condition of the firms to invest. Investors should pay attention to the pattern of the firm's capital structure with varying factors, both internal and external. Financial market and macroeconomic conditions affect the firm's capital structure, so that the government and policymakers could contribute in controlling the business risk by controlling the level of the firm's capital structure. It is important to pay attention to the policies on the financial markets and macroeconomic. Monetary policy related with the increase in money supply is set by Bank Indonesia (BI) for banking sector development is certainly good for firms in improving the financial source through equity and reducing the risk of debt. However, BI will also need to consider that excess money supply can trigger inflation, which will be impact negatively to the business activities, and then bring the possibility of financial distress and bankruptcy. Channeling funds from the banking sector which is regulated and supervised by Financial Services Authority of Indonesia (*Otoritas Jasa Keuangan* or OJK) is also noteworthy. The banking sector is the safest financial intermediary, so the existing regulationsare expected to support the productively of funds. OJK could also play a role in increasing capital market efficiency by issuing regulations that could increase the flow of reliable information in the market.

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