THE EFFECT OF APPLICATION OF MINERAL MINING AND COAL LAW No. 4/2009: THE LARGEST INSTITUTIONAL OWNERSHIP, AND SUPERVISORY BOARD SIZE ON DEBT POSITION OF MINING FIRMS

Wendy Aldi Pratama[1] Regina Fellyciana[2]

[1, 2] Accounting Department, Faculty of Economics,
Maranatha Christian University, Bandung, INDONESIA.

[1]wendyaldipratama@gmail.com, [2]regina.siadari@gmail.com

ABSTRACT

Since the Law of Mineral Mining and Coal (MMC) No.4/2009 has been issued in Indonesia, the excavating firms in the MMC subsector must build the smelter. To achieve it, they use retained earnings as the pecking order theory proposes so that the reduction in debt happens. Related to this fall, the institution with the largest share and the supervisory board size also become its determinants. This study intends to test and analyze the effect of the application of the law of this MMC law, the largest share ownership of institution, and supervisory board size on the debt position of the mining firms as a whole. Also, to take the samples and determine the method to analyze the data, the research employs a simple random and regression model with pooling data. Overall, this study shows that the group of firms affected by the MMC law, the largest institutional ownership, and the number of the supervisory board own a negative effect on the debt position.

Keywords: debt position, the largest institutional ownership, the supervisory board size, the MMC law No.4/2009

INTRODUCTION

The mining is one of the sectors in the capital market of Indonesia (Hartono, 2017). Before the Indonesian government issues the Mineral Mining and Coal (MMC) Law No. 4/2009, the related firms are only responsible for exploring natural resources. Then, they must build a smelter by 2014 to produce and purify their resources in Indonesia. Building the smelter, indeed, needs a lot of amount of money. As a consequence, the firms have to provide it (Sumani, 2015).

The pecking order theory suggests firms be essential to firstly use their retained earnings before they use or issue long-term debt (Brealey, Myers, & Allen, 2006), like bank loans and bonds (Gitman & Zutter, 2012). Related to this theory, as long as the mining firms affected by this MMC law have sufficient retained earnings, they do not need external financing so that their debt position is lower than the unaffected.

Besides the MMC law, the debt position is also influenced by the institution with the largest share, either positively (Sheikh & Wang, 2012; Gul, Malik, Siddiqui, & Razzaq, 2013) or negatively (Chitiavi, Musiega, Alala, Douglas, & Christopher, 2013; Din, Javid, & Imran, 2013; Yuxuan & Wenlin, 2014; Hadianto, 2015) and the number of the supervisory board, both of positively (Abor, 2007; Boroujeni, Noroozi, Nadem, & Chadegani, 2013; Abdul-Qadir, Yaroson, & Abdu, 2015), and negatively (Abobakr & Elgiziry, 2016; Sahabuddin & Hadianto, 2017).

At least, three determinants of debt position exist based on the information shown in advance; therefore, this study attempts to investigate and analyze the effect of the application of the

MMC law, institutional ownership, and supervisory board size on the debt position of the mining firms listed on the Indonesia capital market. As well, the next part of this study is as follows. Firstly, the theoretical framework and hypothesis development. Secondly, the research method. Thirdly, results and discussion. Finally, conclusion and suggestion.

THEORETICAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

The Application Effect of the Mineral Mining and Coal Law No. 4/2009 on Debt Position

The firms in mineral mining and coal subsector have already established and operated for a long time. Indeed, they own adequate retained earnings. If these firms follow the pecking order theory, they will use it to finance the shelter when the MMC Law No.4/2019 is applied. As a consequence, the position of debt in these two subsectors will be lower than that of the unaffected. Based on this information, the first research hypothesis is:

H_1: The group of the firms affected by the MMC Law No. 4/2009 has a negative effect on the debt position.

The Effect of the Largest Share Ownership of the Institution on Debt Position

The institution with the largest share has the major voting rights and control in a firm (Nuraina, 2012)**.** The leverage decreasing effect (LDE) perspective explains the overuse of debt is harmful to the firm because of bankruptcy. Therefore, a request to decrease the liability comes from this institution to the manager to avoid this issue (Siregar, 2008). Chitiavi et al. (2013), Din et al. (2013), Yuxuan & Wenlin (2014), and Hadianto (2015) confirm this point of view and find that the largest share of the institution can decrease the debt position. Based on these facts, the second research hypothesis is:

H_2: The largest share owned by the institution has a negative effect on the debt position.

The Effect of Board Size on Debt Position

According to the resources dependence theory, a large number of the supervisory board is more effective than the smaller because of the ability of this board to give meaningful strategy-related suggestions and to create the inimitability of the firms (Pfeffer, 1972). This contribution makes the board director avoid bankruptcy (Hussainey & Aljifri, 2012). Abor (2007), Boroujeni et al. (2013), and Abdul-Qadir, Yaroson, & Abdu (2015) confirm this theory and find the bigger the board size, the smaller the debt position. Based on these facts, the third research hypothesis is:

H_3: The board size has a negative effect on the debt position.

RESEARCH METHOD

Research Design

The design of this study is quantitative. According to Sugiyono (2012), the study with this design aims to examine the research hypothesis established in advance.

Research Variables

This research has one dependent variable: the debt position, and three independents: the group of mining firms affected by MMC law No.4/2009 (DMC), the largest institutional ownership (LIO), and supervisory board size (BSZ).

a. The logarithm of the debt ratio [LOG(DAR)] at the end of the year is the measure of debt position.

Leena and Luna International, Chikusei, Japan.
(株) リナアンドルナインターナショナル, 筑西市,日本
ISSN: 2186-845X ISSN: 2186-8441 Print
www.ajmse. leena-luna.co.jp

b. The dummy variable of 1 in place of the reference group and 0 for the other group is a measure of DMC,
c. The portion of the largest shares owned by the institution at the end of the year is the measure of LIO.
d. The number of commissioners at the end of the year is the measure of BSZ.

Population and Sampling Method

The mining firms in the Indonesia capital market that exist from 2009 to 2017 become the population of this study. Based on the observation from the IDX Fact Book 2010 until 2018, the number of consistent firms that becomes the population in this period is 26.

Moreover, the total firms becoming samples is determined by the Slovin formula with the fault margin (FM) of 10% (see equation 1).

$n = N/[1 + N(FM)^2]$ ..... (Equation 1).

By applying this formula, the number of samples (n) is $\frac{26}{1+26\ (10\%)(10\%)} = \frac{26}{1.26} = 20.63 \approx 21$ firms. Furthermore, the 21 are selected randomly from the population and their names are in Table 1.

Table 1. The Names of the firms as The Samples

No	Code	The name of the firm	The Subsector of Industry
1	ADRO	Adaro Energy Tbk.	*Coal Mining*
2	ARTI	Ratu Prabu Energi Tbk.	*Crude Petroleum & Natural Gas Production*
3	ANTM	Aneka Tambang (Persero) Tbk.	*Metal & Mineral Mining*
4	ATPK	ATPK Resources Tbk	*Coal Mining*
5	APEX	Apexindo Pratama Duta Tbk	*Crude Petroleum & Natural Gas Production*
6	BUMI	Bumi Resources Tbk.	*Coal Mining*
7	BYAN	Bayan Resources Tbk.	*Coal Mining*
8	CITA	Cita Mineral Investindo Tbk	*Metal & Mineral Mining*
9	CTTH	Citatah Tbk.	*Coal Mining*
10	DEWA	Darma Henwa Tbk	*Coal Mining*
11	DOID	Delta Dunia Makmur Tbk.	*Coal Mining*
12	DSSA	Dian Swastatika Sentosa Tbk	*Coal Mining*
13	ELSA	Elnusa Tbk.	*Crude Petroleum & Natural Gas Production*
14	INCO	Vale Indonesia Tbk.	*Metal & Mineral Mining*
15	ITMG	Indo Tambangraya Megah Tbk	*Coal Mining*
16	KKGI	Resource Alam Indonesia Tbk	*Coal Mining*
17	MEDC	Medco Energi Internasional Tbk	*Crude Petroleum & Natural Gas Production*
18	MITI	Mitra Investindo Tbk	*Land/Stone Quarrying*
19	PKPK	Perdana Karya Perkasa Tbk.	*Crude Petroleum & Natural Gas Production*
20	PTBA	Tambang Batubara Bukit Asam (Persero) Tbk	*Coal Mining*
21	TINS	Timah (Persero) Tbk.	*Metal & Mineral Mining*

Method of Data Analysis

The method of data analysis used is the regression model with pooled data; its equation is below:

$$LOG(DAR)_{it} = \beta_0 + \beta_1 DMC_{it} + \beta_2 LIO_{it} + \beta_3 BSZ_{it} + \varepsilon_{it} \quad \text{..... (Equation 2)}$$

The estimation of the regression coefficients (β) utilizes the ordinary least square method. Consequently, it needs the accomplishment of four classical assumptions: the normality of residuals, homoscedasticity of variance, the absence of multicollinearity and autocorrelation (Ghozali, 2016).

- The test of Kolmogorov-Smirnov (KS) acts as the tool to prove normality. Meanwhile, the White exam and the detection of variance inflation factor (VIF) functions to prove the homoscedasticity of variance and the absence of multicollinearity, respectively.
- The test of the runs on residuals acts as the tool to prove the absence of autocorrelation.

RESULT & DISCUSSION

The test result of the classical assumptions

Table 2 presents the test result of normality (see Panel A), homoscedasticity of variance (see Panel B), and multicollinearity detection (Panel C).

- In Panel A, the asymptotic significance (2-tailed) value of KS Z-statistic for residuals is 0.981. Because this value overdoes the 5% significance level (α), this research accepts the null hypothesis declaring that residuals follow the normal distribution.
- In Panel B, the probability value of the Chi-Square statistic of observation of R-squared for the three additional variables (DMC^2, LIO^2, and BSZ^2) based on the White test is 0.3461. This value outstrips the 5% significance level used; therefore, this research accepts the null hypothesis declaring the residuals are not affected by DMC^2, LIO^2, and BS^2. It also means homoscedasticity occurs.
- In Panel C, the value of the VIF for DMC is 1.109, LIO is 1.109, and BSZ is 1.040. Because this value is lower than 10 as its reference point, the problem of multicollinearity does not exist.

Table 2. The test result of normality, homoscedasticity of variance, and autocorrelation

Panel A. The test result of Kolmogorov-Smirnov on residuals

Kolmogorov-Smirnov Z	0.468
Asymp. Sig. (2-tailed)	0.981

Panel B. The test result of White: RESID^2 = f(DMC^2, LIO^2, BSZ^2)

F-statistic	1.099622	Prob. F(3,185)	0.3506
Obs*R-squared	3.311148	Prob. Chi-Square(3)	0.3461

Panel C. The VIF value of the Independent Variables

Independent Variable	Collinearity Statistics	
	Tolerance	VIF
DMC	0.902	1.109
LIO	0.934	1.070
BS	0.961	1.040

Source: Modified Output of IBM SPSS 20 and E-Views 6.

Table 3 displays the test result of the runs based on the mean value where the asymptotic significance (2-tailed) value of Z-statistic for residuals is 0.981. This value goes above the 5% significance level used; therefore, the residuals are not random. It means the regression has an autocorrelation problem.

Leena and Luna International, Chikusei, Japan.
(株) リナアンドルナインターナショナル, 筑西市,日本
ISSN: 2186-845X ISSN: 2186-8441 Print
www.ajmse. leena-luna.co.jp

Table 3. The Test Result of Runs on Residuals Based on the Mean Value

Z	-9.394
Asymp. Sig. (2-tailed)	0.000

Source: Modified Output of IBM SPSS 19.

The estimation result of the regression model

Although the autocorrelation exists, the researcher keeps insisting on estimating the regression model, because of a good result (see Table 4). The good result is shown by the probability value (sig.) for t-statistic for DMC, LIO, and BS that is below 10% as the significant level or α.

Table 4. The Estimation Result of the Regression Model: LOG(DAR) = f(DMC, LIO, BSZ)

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-.099	.060		-1.661	.098
	DMC	-.079	.037	-.157	-2.107	.036
	LIO	-.002	.001	-.185	-2.522	.013
	BS	-.013	.007	-.140	-1.945	.053

Source: Output of IBM SPSS 20.

The test result of the hypothesis

The test of each hypothesis refers to Table 4. To reject the null hypothesis, the researcher compares the probability value (sig.) of t-statistic with α of 10%. If this value ≥ α, the null hypothesis is accepted, and vice versa.

- The first null hypothesis declares that the group of firms affected by the MMC law has no or a positive effect on the debt position. Because the probability value of the negative t-statistic of DMC is 0.036, this hypothesis is banned.
- The second null hypothesis declares that the largest institutional ownership has or a positive effect on the debt position. Because the probability value of the negative t-statistic of LIO is 0.013, this null hypothesis is forbidden.
- The third null hypothesis declares that the supervisory board size has or a positive effect on the debt position. Because the probability value of the negative t-statistic of BSZ is 0.053, this null hypothesis is not allowed.

DISCUSSION

Based on the statistical test of each hypothesis, all alternative hypotheses, Ha_1, Ha_2, and Ha_3, are recognized.

a. This study accepts the first alternative hypothesis: the group of the firms affected by the MMC Law No. 4/2009 has a negative effect on the debt position. This indicates that these related companies follow the pecking order theory: as long as the retained earnings are sufficient, they become the first choice because of the cheapest cost. By using them to finance the shelter, these firms can decrease their dependence on debt.

b. This study accepts the second alternative hypothesis: there is a negative effect of the largest institutional ownership has on the debt position. As the owner of the firm, the institution with the largest share will get lost if the bankruptcy happens because of the

invested lot of money. Therefore, they prevent to avoid this issue by asking managers for reducing debt. Fortunately, managers obey their requests because they will not lose their position if the firm. Additionally, this negative impact confirms the study result of Chitiavi et al. (2013), Din et al. (2013), Yuxuan & Wenlin (2014), and Hadianto (2015).

c. This study accepts the third alternative hypothesis: the supervisory board size has a negative effect on the debt position. It means the firms should have a large number of this board as the resource dependence theory suggests. By having it, the firms can use the various skills and knowledge owned by each board member to overcome bankruptcy through advice to directors. Additionally, this negative impact confirms the study result of Abobakr & Elgiziry (2016) and Sahabuddin & Hadianto (2017).

CONCLUSION AND SUGGESTIONS

After discussing the result based on three hypotheses tested, this study infers that the group of firms affected by the MMC Law No. 4/2009 has a negative effect on the debt position, as well as the largest institutional ownership and the members of the supervisory board have.

This study has some limitations that the next researchers overcome. Firstly, it only uses three variables affecting the debt position. Related to this limitation, the next researchers are suggested adding the other determinants into their model, like firm size, asset growth, asset structure, profitability, investment opportunity, business risk, liquidity, asset turnover, tax shield managerial ownership, and board independence.

Secondly, this study lets autocorrelation happen because the regression still produces a significant effect of three determinants of debt position. If the next researchers find this issue, they can remove it by the procedure of the Cochran-Orcutt test as Ghozali (2016) explains.

Thirdly, this study only uses the mining firm in the capital market of Indonesia. Related to this limitation, the next researchers should use the data of the mining firms in Southeast Asian countries.

Leena and Luna International, Chikusei, Japan.
(株) リナアンドルナインターナショナル, 筑西市,日本
ISSN: 2186-845X ISSN: 2186-8441 Print
www.ajmse. leena-luna.co.jp

REFERENCES

[1]. Abdul-Qadir, A., Yaroson, E., & Abdu, M. (2015). Institutional Investors, Board Size and Capital Structure Decisions: Empirical Evidence from Non-Financial Firms in Nigeria. *European Journal of Business and Management, 7*(23), 82-90.

[2]. Abobakr, M. G., & Elgiziry, K. (2016). The Effect of Board Characteristics and Ownership Structure on the Corporate Financial Leverage. *Accounting and Finance Research, 5*(1), 1-14.

[3]. Abor, J. (2007). Corporate governance and financing decisions of Ghanaian listed firms. *Corporate Governance: The international journal of business in society, 7*(1), 83-92.

[4]. Boroujeni, H. N., Noroozi, M., Nadem, M., & Chadegani, A. A. (2013). The Effects of Ownership Structure and Corporate Governance on Capital Structure. *Australian Journal of Basic and Applied Sciences, 7*(4), 424-430.

[5]. Brealey, R. A., Myers, S. C., & Allen, F. (2006). *Corporate Finance* (8 ed.). Singapore: McGraw Hill.

[6]. Chitiavi, M. S., Musiega, M. G., Alala, O. B., Douglas, M., & Christopher, M. O. (2013). Capital Structure and Corporate Governance practices: Evidence from Listed Non-Financial Firms on Nairobi Securities Exchange Kenya. *IOSR Journal of Business and Management, 10*(2), 8-16.

[7]. Din, S., Javid, A., & Imran, M. (2013). External and internal ownership concentration and debt decisions in an emerging market: evidence from Pakistan. *Asian Economic and Financial Review, 3*(12), 1583-1597.

[8]. Ghozali, I. (2016). *Aplikasi Analisis Multivariate dengan Program IBM SPSS 23.* Semarang: Badan Penerbit Universitas Diponegoro.

[9]. Gitman, L., & Zutter, C. (2012). *Principle of Managerial Finance* (13 ed.). Boston: Prentice Hall.

[10]. Gul, S., Malik, F., Siddiqui, M., & Razzaq, N. (2013). Corporate Governance and Financing Decisions of Listed Firms in Pakistan. *European Journal of Business and Management, 5*(23), 74-80.

[11]. Hadianto, B. (2015). The impact of largest shareholder on debt policy of the public listed firms in restaurant, hotel, and tourism industry: Evidence from Indonesia. *International Journal of Education and Research, 3*(5), 35-48.

[12]. Hartono, J. (2012). *Metodologi Penelitian Bisnis: Salah Kaprah & Pengalaman-Pengalaman* (5 ed.). Yogyakarta: Badan Penerbit Fakultas Ekonomi Universitas Gadjah Mada.

[13]. Hartono, J. (2017). *Teori Portofolio & Analisis Investasi* (11 ed.). Yogyakarta: Badan Penerbit Fakultas Ekonomi Universitas Gadjah Mada.

[14]. Hussainey, K., & Aljifri, K. (2012). Corporate governance mechanisms and capital structure in UAE. *Journal of Applied Accounting Research, 13*(2), 145-160.

[15]. Kasmir. (2013). *Analisis Laporan Keuangan.* Jakarta: PT RajaGrafindo Persada.

[16]. Nuraina, E. (2012). Pengaruh Kepemilikan Institusional dan Ukuran Perusahan terhadap Kebijakan Utang dan Nilai Perusahaan (Studi pada Perusahaan Manufaktur yang Terdaftar di BEI). *Jurnal Bisnis dan Ekonomi, 19*(2), 110-125.

[17]. Pfeffer, J. (1972). Size and composition of corporate boards of directors: The organization and its environment. *Administrative Science Quarterly, 17*(2), 218-228.

[18]. Purag, M., Abdullah, A., & Bujang, I. (2016). Corporate governance and capital structure of Malaysian family-owned companies. *Journal of Business and Retail Management Research, 11*(1), 18-30.

[19]. Sahabuddin, Z. A., & Hadianto, B. (2017). The Impact of Board Size, Board Independency and Investment Opportunity on Debt Policy of Manufacturing Firms Listed on Indonesia Stock Exchange. *The Sixth International Conference on Entrepreneurship and Business Management*, (pp. 349-356). Hanoi, Vietnam.

[20]. Sheikh, N., & Wang, Z. (2012). Effects of Corporate Governance on Capital Structure: Empirical Evidence from Pakistan. *Corporate Governance: The international journal of business in society, 12*(5), 629-641.

[21]. Siregar, B. (2008). Ekspropriasi Melalui Utang dalam Struktur Kepemilikan Ultimat. *Jurnal Ekonomi dan Bisnis Indonesia, 23*(4), 431-453.

[22]. Sugiyono. (2012). *Metode Penelitian Kuantitatif, Kualitatif, dan Kombinasi (Mixed Method).* Bandung: Alfabeta.

[23]. Sumani. (2015). Determinan Struktur dan Nilai Perusahaan Pertambangan Pasca UU No. 4 Tahun 2009. *Ekuitas: Jurnal Ekonomi dan Keuangan, 19*(1), 24-41.

[24]. Yuxuan, Y., & Wenlin, G. (2014). An empirical study on factors influencing capital structure of pharmaceutical listed corporations. *Journal of Chemical and Pharmaceutical Research, 6*(6), 1042-1046.

Leena and Luna International, Chikusei, Japan.
(株) リナアンドルナインターナショナル, 筑西市,日本
ISSN: 2186-845X ISSN: 2186-8441 Print
www.ajmse. leena-luna.co.jp