DID MANAGER BEHAVE OVERCONFIDENTLY?

Bayu Sindhu RAHARJA[*]
Dahli SUHAELI[**]
Muji MRANANI[***]

Abstract

This research examines the hypothesis of manager overconfident on financing decision. According to previous research, the manager of higher growth firms tends to have overconfidence to use higher financial leverage on their financing decision, that causes the declining of its performance in the future. The empirical results of this research show that higher growth tends to have higher financial leverage and reduced performance in the future. Nevertheless, higher financial leverage on higher growth is not implied overconfident behavior. Instead, higher financial leverage is a rational decision on financing higher growth firms. This research also gives a different evidence of the firms' financing behavior in Indonesia. This evidence shows that employing higher financial leverage to proof the hypothesis of manager overconfident is appropriately used on firms which have weak growth.

Keywords: Sales growth, Debt, Financial leverage, Long-term performance

JEL Classification: G0, G1, G3

1. Introduction

Lehman Brothers Inc. the big company of the United States (US) business' history, announced its bankruptcy, in the middle of 2008. Previously, it had aggressive growth in its business as a result of the glut of available funds and the high growth of US housing

[*] *Lecturer, Department of Management, The Faculty of Economics and Business, Universitas Muhammadiyah Magelang, Indonesia.*
[**] *Lecturer, Department of Management, The Faculty of Economics and Business, Universitas Muhammdiyah Magelang, Indonesia.*
[***] *Lecturer, Department of Accounting, The Faculty of Economics and Business, Universitas Muhammadiyah Magelang, Indonesia.*

market (Wiggins, Piontek, & Metrick, 2014). To fulfill the aggressive growth, Lehman Brothers raised its financial leverage. Afterwards, they faced bankruptcy because it could not fulfill its debts payment to the creditor. There was not only Lehman Brothers in this situation, but other important brands, such as General Motors, Blockbuster, Kodak, etc. In 1998, many countries in southwest eastern Asia also suspected financial crisis due to the same cases. That evidence was given insight that using high financial leverage on financing decisions at high growth phase increased bankruptcy risk of the firm.

Many scholars have examined how higher financial leverage caused the bankruptcy of higher growth firms. For example, Ramezani et al. (2002) said that higher growth companies tend to use higher financial leverage on their financing decisions, then faced bankruptcy. For example, Lehman Brothers, Kodak used high financial leverage as a scheme of financing decisions, and after that, they faced bankruptcy because they could not fulfill their debt payments to the creditor. This is well explained by the trade-off theory of capital structure which said that employing higher leverage could increase the bankruptcy risk of the firms (Kraus & Litzenberger, 1973; Scott, 1977). However, this argument is contrary to the other theory of capital structure, such as Modigliani-Miller theory, pecking order theory, and agency theory that said higher debts had given the advantage of making effective cost of capital and minimizing the agency conflict. The different explanation of the phenomenon needs an alternative approach for getting elaboration apparently.

Gombola & Marciukaityte (2007) give a behavioral perspective as an alternative approach to solving this phenomenon. Their research found that the managers of higher growth firms behave overconfidently on taking the risk by using higher financial leverage to run their business. The overconfidence is one of the behavioral bias that would make people irrational on making decisions.Therefore, it would cause on the declining of the firms' long-run performance. However, we found some weaknesses in their research, regarding especially the research method employed. Gombola & Marciukaityte (2007) use three variables: firm growth, financial leverage, and businesses' performance, but they did not employ the systematical relation between variables. Thus, without the relationship between these variables, we could not conclude that applying higher financial leverage was a rash decision. Therefore, this research will confirm and test the hypothesis of manager overconfidence introduced by

Gombola & Marciukaityte (2007). It uses the multiple regression analysis with mediation variable which facilitate the relation between firms' growth, financial leverage, and companies' long-term performance. By using this method, our research will give the obvious explanation of the existing manager overconfidence behavior. This paper is divided into three steps. The first one elaborates the theoretical perspective of capital structure, then, conduct the hypothesis of manager overreaction. The second phase develops the research method of analyzing manager overreaction behavior on financing decisions. Finally, the third phase will elaborate the result of this study.

2. Literature review and hypothesis

The theory of capital structure in corporate finance-related to how a company has taken the financing decision, was very dynamic. The primary purpose of financing decision is optimizing the shareholder's wealth (Shyam-sunder & Myers 1999). The way to optimize the shareholder's wealth is by maximizing the stock prices, meaning that the financing decision should optimize the value of the firm. Many scholars proof that the financing decision policy influences the value of the firm (Modigliani & Miller, 1958; Jensen & Meckling 1976; Myers & Majluf 1984; Anderson, Mansi, & Reeb 2003; Su 2004; Gombola & Marciukaityte 2007; Kim, Thomas, Kim, & Pukthuanthong-le 2008; Cogliati & Paleari 2011). Modigliani and Miller were the pioneers who said that using debt in financing decision will enhance the value of the firm by minimizing the cost of the tax.

This research examines different views of how the firms decide on their financing policy. It uses companies' growth as information which has triggered the managers on selected their funding decisions. Then this research also examines how these decisions have effect on firms' long-term performance. The previous research also said that higher growth companies tend to have higher in debt for their financing decision (Myers & Majluf 1984; Campello 2006; Billett, King, & Mauer 2007). Ramezani et al. (2002) and Gombola & Marciukaityte (2007) said that high growth firms need a lot of funds to support their business growth. Afterwards, more top growth companies use larger debts to run their business operation. Therefore, it has impacted to the declining of firms' performance in

the future. Recall to the theory of business life-cycle which said that the declining phase occurred after a higher growth phase. Much of the previous research also found of its evidence (Ramezani 2002; Gombola & Marciukaityte 2007). Thus, the first and the second hypotheseths of this study:

H_1: *Firms' growth positively related to the extent of financial leverage*

H_2: *Firms' growth negatively related to firms' long-term performance*

The high growth firms tend to use a lot of debt for financing their business. In the trade-off theory of capital structure, using a lot of debt in financing decisions would increase firms' market risk. The high market risk will push the potential for bankruptcy, as mentioned by the example in the first paragraph of this paper. Gombola & Marciukaityte (2007) found that the manager of a higher growth firm tends to have overreaction behavior on financing policy. According to the research, the companies tend to have a lot of debt for funding their business. After that, it caused the declining of their long-term performance in the future. Verwijmeren & Derwall (2010) in their research argued that firms with better credit rating have less debt in financial decisions.

Gombola & Marciukaityte (2007) used the concept of manager overreaction to figure out the phenomena of the declining long-term performance of the firms. In their research, the overreaction behavior occurred when the firm had better growth and higher debt in their financing decisions. Weinstein (1980) argued that many decision-makers tend to use past performance or past experiences for primary considerations in the decision-making process. If the past experiences are good, the decision maker reacts optimistically, even in case of risky decisions. Placing debt as more dangerous financing decisions were different to many scholars who otherwise argued that using debt is rational in the funding decisions (Modigliani & Miller 1958; Jensen & Meckling 1976; (Myers & Majluf 1984; Shyam-sunder & Myers 1999; Anderson et al. 2003).

In this research, we will test the proxy and the systematical analysis of manager overreaction which was introduced by Gombola and Marciukaityte (2007). The main weakness of their research refers to the method to analyze the existing of manager overreaction behavior. They used higher firms' growth and high debt to capture the behavior of manager overreaction. As we have known, the high debt

in financing decisions is not always the primary factor which pushed to the potential of bankruptcy. Raharja (2012) found that firms with high debt in financing policy tend to have higher net emission value at initial public offering (IPO). So, this research argues that high debt is not the factor which has affected the declining of firms' long-term performance. Conversely, using debt for financing decisions increases the value of the firm. Therefore, the next two hypotheses:

H_3: *Financial leverage positively related to the firms' long-term performance.*

H_4: *Financial leverage not mediated the relationship between the firms' growth and companies' long-term performance.*

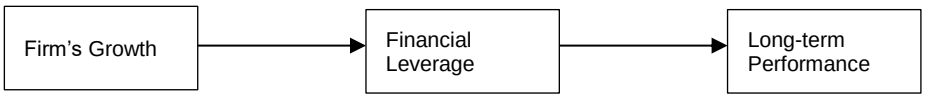
3. Research method

This research used 2042 firms which have listed and distributed the annual report in Indonesian Capital Market (IDX) from 1999 to 2012. Afterwards, the companies were broken down into four quarters (Q1, Q2, Q3, and Q4), based on their growth performance. Q1 consists of the firms which have the highest growth. Q2 consists of companies which have growth lower than Q1, and so Q3, Q4, respectively. We employed it to figure out the behavior of the firms' characteristics based on its growth.

This research used regression analysis with mediating variable to analyze the relationship of firm's growth, financial leverage and long-term performance on testing the manager overreaction hypothesis. Figure. 1 presents the theoretical framework of the manager overreaction.

Figure 1

Theoretical Framework of Manager Overreaction



Source: authors' representation

Figure 1 shows the financial leverage as a mediating variable of the relation between firms growth and long-term performance. If the financial leverage is the primary factor which has affected the declining of companies' long-term performance, it will significantly mediate the relationship between firms growth and businesses long-

term performance. According to Baron & Kenny (1986), employing the regression analysis with mediating variable consists of 4 (four) steps.

Step. 1 analyzes the relationship of sales growth and debt financing.

$$DER_t = \propto_1 + \beta_2 . SALES\_GROWTH_t + \varepsilon$$

Step. 2 analyzes the relationship of sales growth and firms' long-term performance.

$$PERF_t = \propto_0 + \beta_1 . FIRMS\_GROWTH_t + \varepsilon$$

Step. 3 analyzes the relationship of debt financing and firms' long-term performance.

$$PERF_t = \propto_2 + \beta_3 . DER_t + \varepsilon$$

Step. 4 enters the debt financing into Step 1's model.

$$PERF_t = \propto_0 + \beta_4 . DER_t + \beta_5 . FIRMS\_GROWTH_t + \varepsilon$$

PERF is firms' long-term performance, it measured by cumulative abnormal return during 3 years after experienced higher growth. DER is the debt to equity ratio, it a proxy of financial leverage. This research use market return as a benchmark on the calculation of abnormal return.

$$Abnormal\ Return_i = Return_i - Benchmark\ Return_t$$

$$Cumulative\ Abnormal\ Return\ (CAR)_i \prod_{t=36}^{n} Abnormal\ Return\ (AAR)$$

The financial leverage accepted to be the primary factor of the declining companies' performance in the future, if the analysis of step 1 to step 3 fulfilled and the coefficient of firms' growth in step 5 to be equal to zero.

4. Results

Table 1 shows the data of debt financing for each quarter in 1999 to 2012. Firms with the highest growth tend to have higher debt, even a lot of debt in financing decisions, because the highest growth firms need more funds to run their high business activity. Table 1 implicitly supported our first hypothesis.

Table 1

The Comparison of Sales Growth and Debt to Equity Ratio

Year	Quartile Sales Growth				Debt to Equity Ratio			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
2000	1.96	0.27	0.02	-0.26	2.30	2.89	3.43	3.40
2001	1.56	0.34	0.19	-0.07	2.72	2.88	1.51	2.77
2002	18.13	1.62	-0.37	-0.89	1.26	2.04	3.12	0.94
2003	0.27	0.07	-0.04	-0.18	2.81	2.83	2.00	1.85
2004	20.18	1.62	-0.43	-0.88	9.85	2.16	2.10	2.01
2005	0.78	0.27	0.13	-0.12	1.90	1.11	2.40	2.08
2006	0.90	0.20	0.09	-0.14	1.96	0.94	0.51	1.51
2007	0.42	0.11	0.01	-0.26	2.41	1.06	0.44	2.49
2008	0.57	0.22	0.12	-0.10	2.53	2.66	2.44	1.56
2009	2.78	0.28	0.18	-0.10	2.29	2.12	1.79	1.69
2010	17.70	0.04	-0.12	-0.40	1.54	0.18	0.97	3.39
2011	0.70	0.14	0.04	-0.24	1.48	1.07	1.65	1.81
2012	2.34	0.21	0.10	-0.09	0.97	0.47	1.22	0.57
Σ	68.28	5.40	-0.09	-3.74	34	22.40	23.60	26.07
∏	5.25	0.42	-0.01	-0.29	2.62	1.72	1.82	2.01

Source: Indonesian Capital Market Directory (ICMD 2000 - 2012)

Firms which have the highest growth, categorized by Q1, will be used in analyzing whether the highest firms tend to have declining performance in the future. Afterwards, this research analyzes the relationship between financial leverage and firms growth.

Table 2

DER as a proxy of financial leverage
SALES_GROWTH as a proxy of firms' growth

	DER
Constant	2,95***
SALES_GROWTH	0,03**

*Note: *** significant at level 5%; ** significant at level 10%*

Table 2 showed the empirical result of the relationship between firms growth and financial leverage. It found that higher growth firms tend to have higher financial leverage. This evidence supports our first hypothesis. It could be understood rationally, higher growth needs more funds to run its higher business activity.

Table 3

PERF as a proxy of firms' long-term performance
SALES_GROWTH as a proxy of firms' growth

	PERF
Constant	0,001***
SALES_GROWTH	-0,00006*

*Note: *** significant at level 5%; * significant level 15%*

Table 3 showed the empirical result of the relationship between firms growth and firms long-term performance. It found the negative and significant relation between firms' growth and firms' long-term performance. It means that higher growth firms tend to have the declining performance in the future.

Table 4 shows analysis of the Step. 3, the analysis of the relationship between debt financing and firms' long-term performance.

Table 4

PERF as a proxy of firms' long-term performance
DER as a proxy of debt financing

	PERF
Constant	0,01***
DER	0,0002*

*Note: *** significant at level 5%; * significant level 15%*

The analysis of Step 3 shows that the result supports our third hypothesis, which said that the debt financing is positively related to firms' long-term performance. It differs from many previous research that said a lot of debt would make the declining of firms' long-term performance (Gombola & Marciukaityte 2007; Verwijmeren & Derwall 2010).

Table 5 shows the analysis of Step 4 on examining the effect of financial leverage as a mediating variable of firms growth and firms long-term performance.

Table 5

PERF as a proxy of firms' long-term performance
DER as a proxy of debt financing
SALES_GROWTH as a proxy of firms' growth

	PERF
Constant	0,012***
SALES_GROWTH	0,00008**
DER	0,0002**

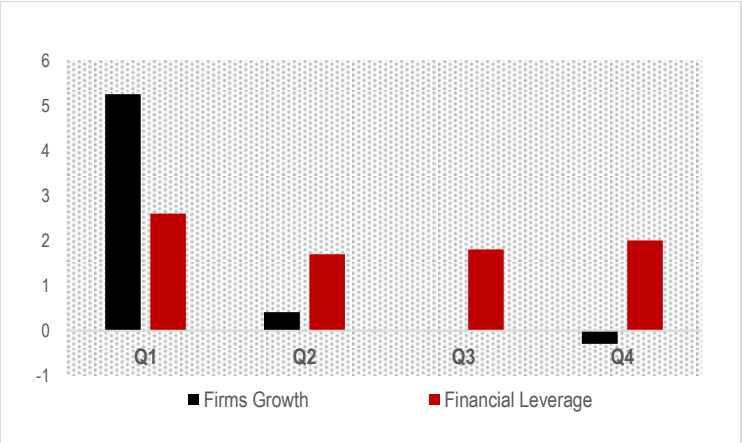
*Note: *** significant at level 5%, ** significant at level 10%*

The result of Step 4 shows that financial leverage does not mediate the relationship between firms' growth and companies' long-term performance ($\beta 1''' > \beta 1$; $\beta 1''' \neq 0$). It results appropriately with our fourth hypothesis that debt financing does not mediate variable in the relation of firms' growth and long-term performance. In other words, the financial leverage is not the primary factor which influences the declining of companies' long-term performance. Therefore, the empirical result rejected the theoretical framework of Gombola and Marciukaityte. Their conceptual framework could not prove the behavior of manager overconfidence.

Figure 2 shows the descriptive of the unique data of the behavior of firms' financing decisions in Indonesia.

Figure 2

The Behavior Firms Financing



Source: Indonesian Capital Market Directory (ICMD 2000 – ICMD 2012)

Figure.2 shows that firms which have the lowest growth (Q4) tend to have higher financial leverage, rather than Q2 and Q3. Therefore, what did high financial leverage use? The most likely answer is - to finance its liabilities. The use of higher financial leverage on financing liabilities of the firms is a dangerous decision. Hirshleifer (2001) argued that reckless behavior is not only pushed by safe and successful experience. According to the prospect theory, people are more risk taker if getting the loss. Therefore, using higher financial leverage on the highest growth is not a proxy of the existing of manager overconfident. Conversely, it will properly employ on the firms which have the lowest growth.

5. Conclusions

This research tests the hypothesis of manager overconfident, introduced by Gombola & Marciukaityte (2007). According to their research, the manager of higher growth firms tends to behave overconfidently on financing decision by using higher financial leverage. Afterwards, the effect of this ruling is the declining of companies performance in the future. This research argues that there is a weakness of the method in previous research on examining the hypothesis of manager overconfident. Therefore, this study introduces the systematic way that facilitates the systematic relationship between many variables.

The empirical result of this research shows that the higher growth firms tend to have higher financial leverage and reduced performance in the future. Nevertheless, by using the systematic method introduced in this research, the greater financial leverage of the higher growth firms did not indicate the manager reckless behavior. Instead of the irrational decision, the increased financial leverage of more top growth companies will effect on the increasing performance in the future.

This research also shows the different evidence of the firms' behavior financing in Indonesia. Figure.2 indicates that the lowest growth firms tend to have higher financial leverage than Q3 and Q2 companies. Probably, the manager overconfident on the financing decision is more appropriate to the manager of the lower growth firms than to higher growth firms. Instead of rejecting the hypothesis of manager overconfident, this research gives appropriate research method for testing the theory of manager overconfident.

Acknowledgements

We would like to thank to the Ministry of Research and Higher Education of Indonesia that fully funded this research. We also thank to the staff of The Center Economics and Financial Studies of Universitas Muhammadiyah Magelang who helped to complete our research data.

References

1. Anderson, R. C., Mansi, S. A., & Reeb, D. M. (2003). "Founding family ownership and the agency cost of debt". *Journal of Finance*, 68, pp. 263–285. https://doi.org/10.1016/S0304-405X(03)00067-9
2. Baron, R. M., & Kenny, D. A. (1986). "The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations". *Journal of Personality and Social Psychology*, 51(6), pp. 1173–1182.
3. Billett, M. T., King, T. D., & Mauer, D. C. (2007). "Growth Opportunities and the Choice of Leverage, Debt Maturity, and Covenants". *The Journal of Finance*, LXII(2), pp. 697–730.
4. Campello, M. (2006). "Debt financing : Does it boost or hurt firm performance in product markets ?" *Journal of Financial Economics*, 82, pp. 135–172. https://doi.org/10.1016/j.jfineco.2005.04.001
5. Cogliati, G. M., & Paleari, S. (2011). "IPO pricing : growth rates implied in offer prices". *Annals Finance*, 7, pp. 53–82. https://doi.org/10.1007/s10436-010-0170-6
6. Gombola, M., & Marciukaityte, D. (2007). "Managerial Overoptimism and the Choice Between Debt and Equity Financing". *Journal of Behavioral Finance,* 8 (October 2014), pp. 225–235. https://doi.org/10.1080/15427560701699510
7. Hirshleifer, D. (2001). "Investor Psychology and Asset Pricing". *The Journal of Finance*, 56(4), pp. 1533–1597. Retrieved from http://www.jstor.org/stable/2697808
8. Jensen, M. C., & Meckling, W. H. (1976). "Theory of The Firm : Managerial Behavior, Agency Cost and Ownership Structure". *Journal of Financial Economics*, 3, pp. 305–360.
9. Kim, J., Thomas, K. P., Kim, J., & Pukthuanthong-le, K. (2008). "Leverage and IPO under-pricing : high-tech versus

low-tech IPOs". *Management Decision*, 46(1), pp. 106–130. https://doi.org/10.1108/00251740810846770

10. Kraus, A., & Litzenberger, R. H. (1973). "A State-Preference Model of Optimal Financial Leverage". *The Journal of Finance*, 28(4), pp. 911–922. Retrieved from http://www.jstor.org/stable/2978343
11. Modigliani, F., & Miller, M. H. (1958). "The Cost of Capital, Corporation Finance and the Theory of Investment". *The American Economic Review*, 48(3), pp. 261–297. Retrieved from http://www.jstor.org/stable/1809766
12. Myers, S. C., & Majluf, N. S. (1984). "Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have*". *Journal of Financial Economics*, 13, pp. 187–221. Retrieved from http://www.sciencedirect.com/science/article/pii/0304405X84900230
13. Raharja, B. S. (2012). "Fenomena underpricing dan kinerja jangka panjang pada saat IPO: pengujian informasi asimetri". *Universitas Gadjah Mada*.
14. Ramezani, C. A., Soenen, L., & Jung, A. (2002). "Growth, corporate profitability, and value creation". *Financial Analysts Journal*, 58(6), pp. 56–67. Retrieved from http://search.proquest.com.contentproxy.phoenix.edu/docview/219231847/abstract/44F7EE375EC14E58PQ/13%0Ahttp://files/434/Ramezani et al. - 2002 - Growth, corporate profitability, and value creatio.pdf
15. Scott, J. H. (1977). "Bankruptcy, Secured Debt, and Optimal Capital Structure". *The Journal of Finance*, XXXII(1), pp. 1–19.
16. Shyam-sunder, L., & Myers, S. C. (1999). Testing static tradeoff against pecking order models of capital structure. Journal of Financial Economics, 51, pp. 219–244.
17. Su, D. (2004). "Leverage, insider ownership, and the underpricing of IPOs in China". *International Financial Markets Institution and Money*, 14, pp. 37–54. https://doi.org/10.1016/S1042-4431(03)00043-X
18. Verwijmeren, P., & Derwall, J. (2010). "Employee well-being, firm leverage, and bankruptcy risk". *Journal of Banking and Finance*, 34(5), pp. 956–964. https://doi.org/10.1016/j.jbankfin.2009.10.006

19. Weinstein, N. D. (1980). “Unrealistic Optimism About Future Life Events”. *Journal of Personality and Social Psychology*, 39(5), pp. 806–820.
20. Wiggins, R. Z., Piontek, T., & Metrick, A. (2014). “The Lehman Brothers Bankruptcy A: Overview”. *Yale Program on Financial Stability Case Study*, 1(3), pp. 1–23.

Other sources

21. IDX, 2000-2012, *Indonesian Capital Market Directory*, Jakarta, Indonesia.