Too Much "Debt" will "Default" You:
The Case of Listed Default Companies in Indonesia

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Abstract

This paper aims to analyze the dynamic relationship between debt and company's performance which can cause default in Indonesia. System dynamics model is used to evaluate the elationship between debt and company's performance which can cause default. Each company may have each archetype for the default case, this research may estimate early warning system for default. It was discovered that default is caused by the intention of the company to add and to expand capital expenditure aggressively, but these companies did not generate adequate income to pay the matured debt. In addition, significant decreasing demand and the price of the product severed the condition. This particular research paper was only focused on the relationship between debt and company's performance to pay the matured debt. Other variables may be considered as those having a small effect. This may be the first paper that analyzes debt effect to company in default condition using system dynamic model in Indonesia.

Keywords**:** Debt, default, Indonesia, system dynamics, archetype
Article Type**:** Research paper

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1. Introduction

Some companies aggressively acquired other companies by issuing debt or loan. Similarly, they bought huge new asset significantly by using the same scheme. This can be a threat if the company cannot pay up when the debt would be matured or the interest expense can burden the operating income. Some companies artificially increased their performance by conducting many corporate actions to get better valuations, thus increasing their stock price.

Default debt can be caused by mismanagement of debt and weak performance of the company in the financial crisis. Financial crisis can cause illiquidity and a big decrease in generated income. If the company does not have sufficient funds to pay matured debt, it will default. Some researchers conduct research on this area using multivariate analysis or regression model. While, Lewis (2013) studied the relationship of defaulted debt with other factors in country context by system dynamic analysis. But not many researchers analyzed similar issues in private companies using system dynamic analysis.

This study aims to see the phenomenon when such company would be bankrupt by systems dynamics. Previous studies conducted this research using one way direction approach, as opposed to the system dynamics method. System dynamics means there is an interactive relationship among variables. The structure of the paper begins with an introduction, explaining the research gap, literature review on related issue, research methodology, which explains the research sample, assumptions and method, and finally the analysis.

2. Literature Review

Default rating can be given to a company if they cannot pay their debt for any reasons. This can be caused by a mismatch in cash management, financial crisis or the inability to find other funding. As long as the company can restructure their debt, they would survive from default threat even though they would have a bigger debt.

Problems would occur if the company has a problem with their operating income and try to issue debt to add the capital expenditure. In general, their stock price would increase significantly then decreased sharply. The increasing price was caused by higher valuation and bigger expectations after the corporate action. But it would not reflect the real condition of the company, so the stock price would decrease.

Most researches on default debt are based on one way effect, such as the usage of multiple regression, and Structural Equation Model (SEM). The methods differentiate by which variables are independent and which are dependent. This method only analyzes which effects can cause the default debt in one company. However, this research tries to explore dynamic causal relationship among variables which can cause default on debt.

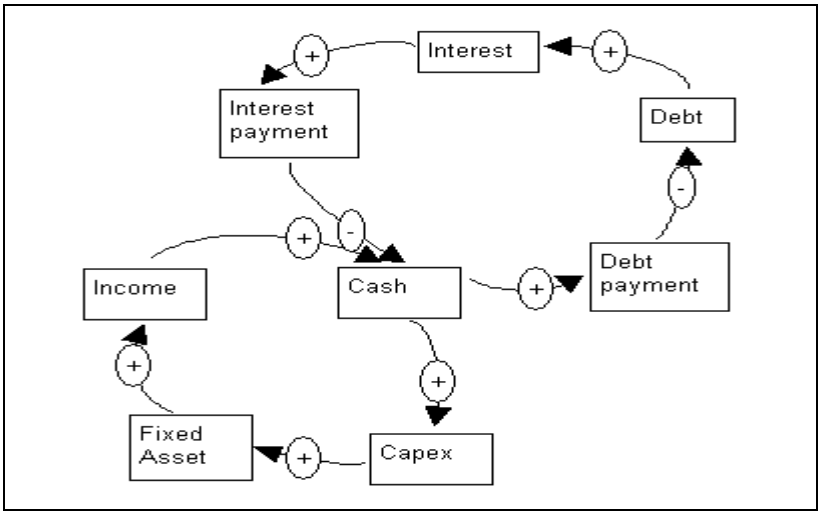
Generally, researches in default caused by debt has been done based on one type of debt - governmental debt. Drudi and Giordano (2000) analyzed the risk and management of governmental debt, which has higher interest rate for long term debt which has high risk. In addition, inability to manage debt can cause problems due to the inflation rate.

In case of private company, Goyal and Wang (2013) found that short term debt has lower asymmetric information or higher default risk than the long term one. Short term debt may be easier to maintain and to predict the volatility. While long term debt was preferred to be rolled over for refinancing. Kato and Hagendorff (2010) concluded that banks that have subordinated debt have better efficiency in case of default management, which can support the liquidity of the bank.

On the other hand, Merra-Barral (1999) highlighted that creditor would ask default for their borrower to minimize risks theoretically. This may imply for minimizing risk from creditor side. If a creditor has a collateral, they would ask a default as they may find safety proposal.

Research in similar topic using system dynamics method was conducted by Lewis (2013). He studied sovereign debt and default in financial crises and explaining for debt-deficit dynamics in one country. In case of this research, it focuses on the causal dynamic of issuance of debt for capital expenditure, then it can generate income. But, the company must pay the interest expense of debt. The bigger the debt the bigger interest expense that the company must pay. However, the income must be bigger than the effect of debt issuance such as interest rate and other fees. The company also must prepare sufficient funds to pay the matured debt. Otherwise, they will be problem in paying at the maturity date of the debt (see figure 1).

Figure 1. Close Loop Diagram of Debt to Default



3. Research Method

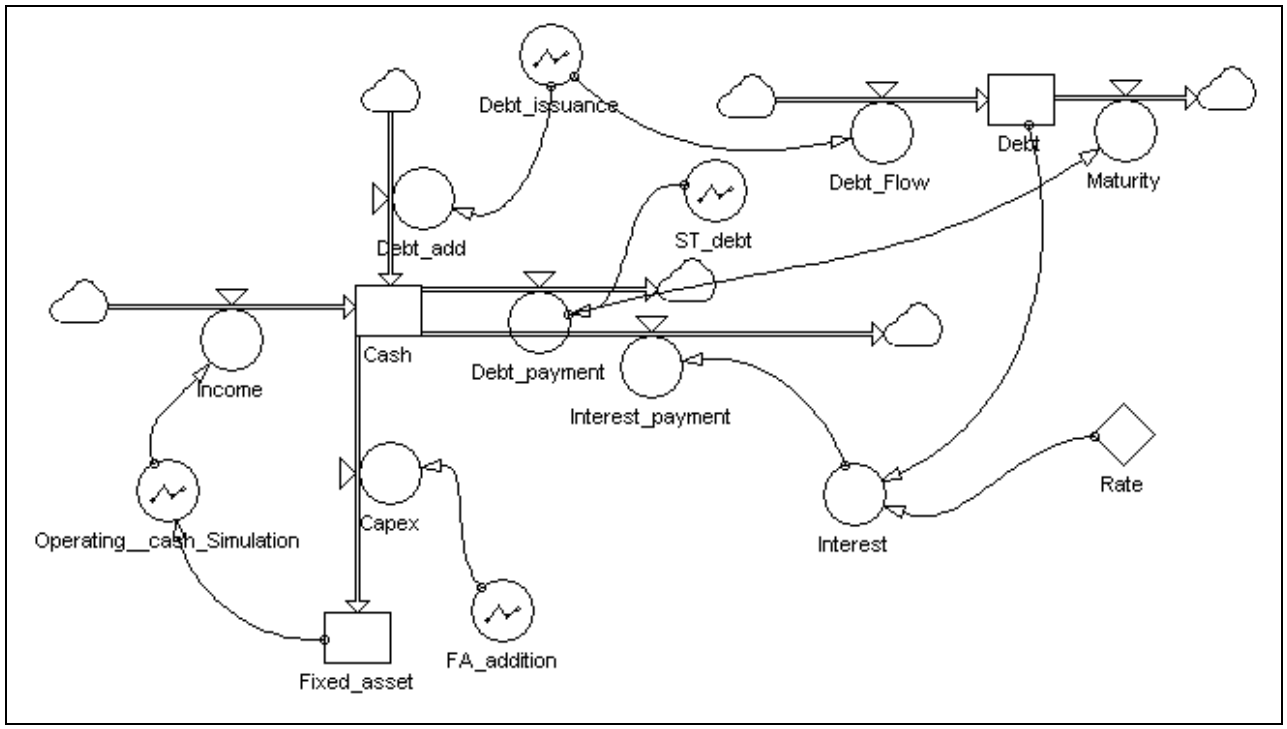
Research method used in this research is analyzing company which has defaulted due to increasingly big debt and at the same they did not have sufficient funds. The sample of this research consisted of two listed companies in Indonesia: BLTA and APOL. Both have a default rating for their bond from rating agencies S&P and Pefindo (local). The data was taken from 2003 to 2010 for BLTA and 2012 for APOL. BLTA did not publish financial reports in the years 2011 and 2012. The BLTA stock price was suspended from January 2012. While, APOL was suspended from January 2011, then reach at the bottom of the price Rp50 at mid of 2012.

The data is based on the cash basis for the flow, while the stock is the cash. The debt was used to determine when the company issued the debt and the debt was due. The model is assuming that other factors are ignored. The model would like to see the function of operating cash of default company. As long as the company can generate bigger income, they can pay the matured debt on time. But if they are burdened with the operational expense, it would not be good for the natural growth of the company.

4. Analysis

The stock flow diagram of the default debt case can be seen in figure 2. The model is based on the cash flow of the company. From cash management, we can see the strength of company in cash allocation and its effectiveness. The purpose of this paper is to analyze cash flow to meet the inflow and outflow of cash because of debt issuance and maturity as well as the interest rate. The interest rate is assumed fixed for 10%, the adjustment of the rate referred to actual interest rate. Other given data are debt issuance, short term debt which was due, and capital expenditure. The model started from 2003, so the cash and debt as stock model was from 2002.

Figure 2 Stock Flow Diagram of Debt to Default

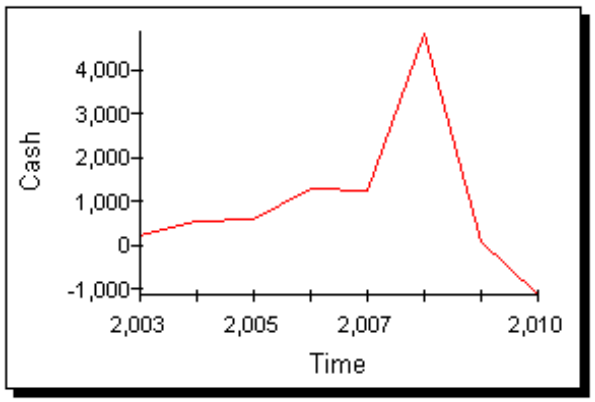
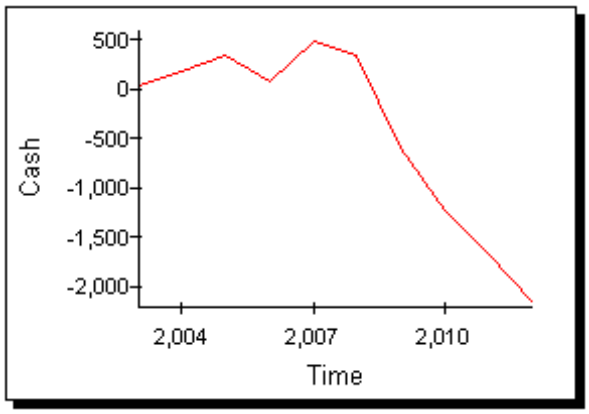
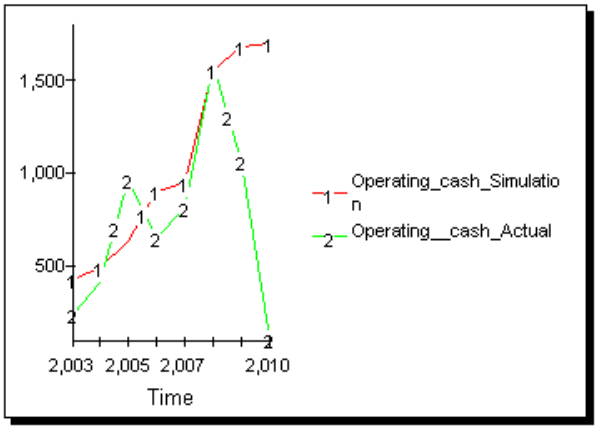
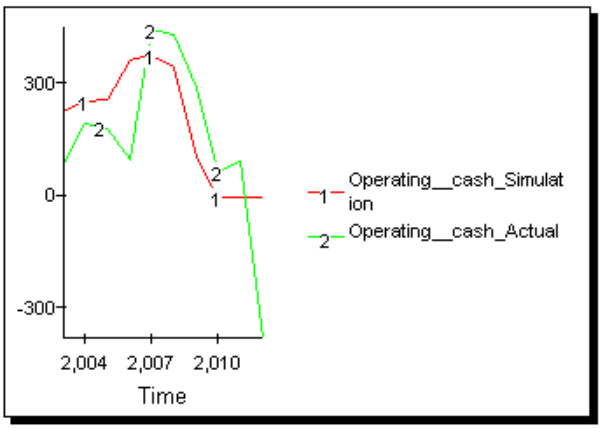


The structure of cash can be seen as overshoot and collapse, the cash in the beginning started to increase gradually. Then, when the company issued debt in big amounts, cash increased significantly, but when it was not supported by good operating cash flow and big debt maturity, it declined sharply until the position was negative (see figure 3).

In case of BLTA, operating cash showed goal seeking type which cannot give a significant contribution to a cash position, especially when the debt was mature. The position of

APOL is much worse than that of BLTA, which can be seen on figure 2. The operating cash flow decreased after reaching a peak in 2007. This condition worsened the cash position which needed significant inflow of cash.

Figure 3. Graph of Cash and Validity of Operating Cash (in Rp bn)

BLTA	APOL
	
Cash	Cash
	
Comparison	Comparison
Information	
Lowered debt's rating in July 2008, and default in February 2012 by Pefindo	July 2009, debt rating lowered and default in December 2010, then upgraded in June 2012 due to debt restructuring.

In case of BLTA, the debt issuance is used to acquire Chembulk Tankers LLC on January 14, 2008, this caused the concern of the credit rating agency Fitch. Then, it was ease due to sale and

lease-back to make financial statement better. The debt rating was decreased as follows (Siswantoro, 2013).

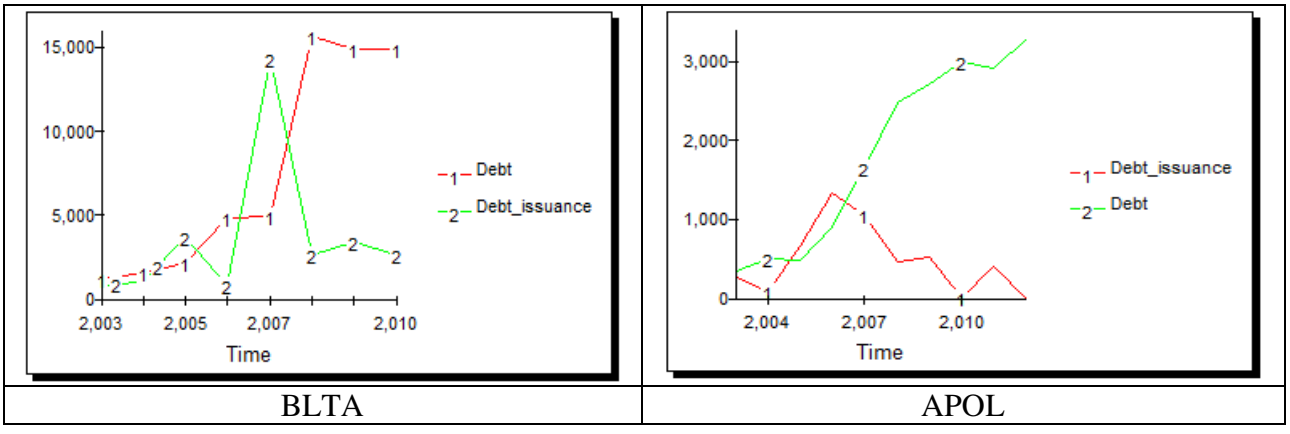
> Later, on July 1, 2008, S&P lowered its rating to CCC+ from B (negative watch) for unsecured debt due in 2014. Similarly, Fitch downgraded long-term foreign and local currency to B from B+ with the outlook stable.

Actually, the decreasing bond rating of BLTA has started in July 2008 as there was a concern from rating agency (S&P). Then, Fitch gave a negative outlook with rating CCC on February 25, 2009. While, local rating agency (Pefindo) reduced its rating on July, 22 2011, then reduced it again until finally defaulted it in February 2012.

A similar case occurred at APOL. They bought vessels aggressively before 2009. Then, it caused a concern from rating agency. APOL has been lowered debt rating on July 17, 2009 by S&P, and Pefindo at 21 July 2009, to $_{id}$A- from $_{id}$A. Then, they received a default rating on December 2010 by the S&P and Pefindo after having financial problem. In June 2012, they received upgrade rating due to debt restructuring by S&P. But this condition cannot be shown in the graph (see figure 3).

Both companies issued debt in huge amount to acquire other companies or buy new vessels. That huge debt cause big interest rate. It can burden the company if they cannot generate bigger income. This also can be severed by the global financial crisis. For example, demand of using cargo service decreased significantly as world economic activity had also been decreasing (see figure 4).

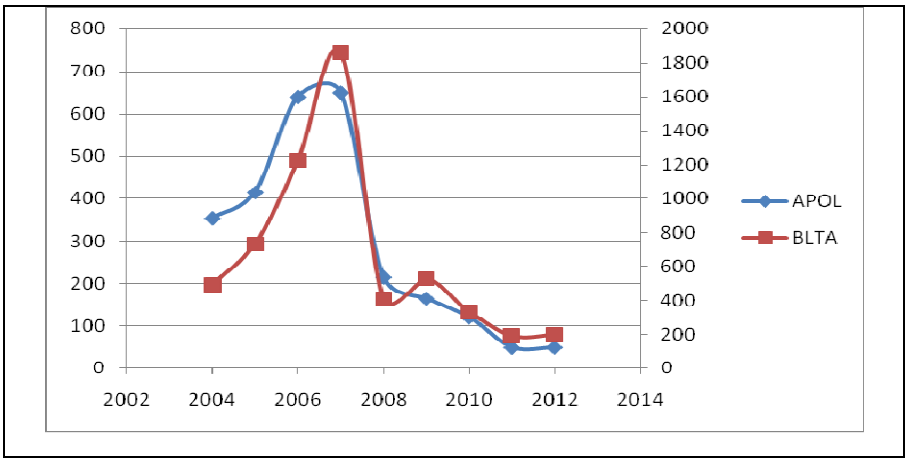
Figure 4. Graph of Debt and Debt Issuance (in Rp bn)



BLTA | APOL

Further issue was the stock price, operating cash flow may have positive correlation with the stock price (see figure 5). This is because the stock price can be derived from free cash flow which is adjusted operating cash flow. Stock price can be valued by discounted projected of free cash flow. So the pattern of stock price may be similar to operating cash flow. Future research in this area may be aimed at discovering further relations between the variables and taking into account additional factors, such as economic condition, demand of the product and the possibility of getting funding from sources, different from issuing debt.

Figure 5. Overshoot and Collapse Archetype Pattern for Stock Price of Default Company



Source: Company

5. Conclusion

System dynamics analysis may contribute to analyzing the ability of the company to maintain stability in their operating activities after corporate action. This research has shown that companies in cargo sector have a trend to increase their capacity by adding new vessels using debt financing. In fact, most companies cannot generate significant income after new additional vessels to be leased. In addition, financial crisis can severe the financial performance and ability to pay matured debt and interest expense. But, when there was upgrading rating debt, it cannot be pointed out in the analysis. This may be caused as the impact was so small and in qualitative view.

It was also concluded that rating agency may issue default rating too late. But these agencies can give early warning to the debt holder efficiently. While the absence of financial statement may not be favorable for the company, the regulator must be strict to anticipate this activity.

Further research in this area is adding other affecting factors such as economic condition, demand of the product and the possibility to get other funding beside debt. Another opportunity for future research is to use more complete system and more comprehensive system for the analysis.

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