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Prediction of Net Profit Growth of Pharmacy Companies on the Indonesian Stock Exchange

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ABSTRACT

Background: The research purpose to analyzing impacts of funding source changes on pharmacy company profits that went public on Indonesian Stock Exchange, with analysis period of 2008 to 2013.
Methods: The research applied analysis means in line with requirements of change variable measurements of funding sources in its interconnectedness with company profits; the applied model was Auto-regressive.
Results: The research results indicated that changes of the last one-period short term debts had negative effects insignificantly on company profits, the last two-period short term debts had positive effects significantly on company profits, changes of the last one-period and two-period long term debts had negative effects insignificantly on company profits, equity changes of the last period had positive effects significantly on company profits, the last period profit changes had negative effects significantly on company profits.
Conclusion: Last one-period short term, last one-period long term, last two-period long term debt changes, and last period profit have negative insignificant effect on company profit. Last two-period short term debt changes, last one-period equity changes, and last two-period equity changes have positive significant effect on company profit.

Keywords: Auto-regressive, Debt, Equity, Profit, Pharmacy company

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Introduction

The fluctuations of net profit growth taken place do not apart from a numbers of internal and external factors; from the internal factor this fluctuation can be analyzed by means of how do companies manage their organizational resources. In which the organizational resources come from or is funded from company funding sources. Funding sources have the important roles for company both in the critical and healthy conditions for funding its operations. The decision to increase or decrease funds source, or, in other word, to alternate resources bring the different consequences on company profit change in the future (1). So with the income growth increase from the investment the company made (2).

In general, fund sources can be viewed from: short term debt, long term debt, and equity. The three fund sources expected may result in profit for company. The increase of three fund sources shall enlarge the company size. Large companies may easily to access capital market, due to they have flexibility and capability to acquire the more and more company fund (3;4). It shall, the larger company size the more opportunity alternative the company can choose in order to optimize its performance. Douglas suggested that the larger company, in the industrial condition in which there is economic of scale, it will tend to increase its operational until per unit product cost can be suppressed (5). By the decrease of per unit cost, then in "ceteris paribus" condition it will automatically increase company profit.

The use of financial fund sources brings the different cost consequence. Management capability in combining the use of the three financial fund sources for increasing company profit is depending on the presence or no of information concerning how large the support of the each fund sources on net profit. By knowing the size of effect or correlation and support of every financial fund source on company profit, then it can determines the use combinations of the three fund sources for increasing operational profit. Company does not only have an interest about the current asset, but also the determination of the proportion of short term and long term debts used. This decision related to trade-off between profitability and risk (6).

Literature Review

In business view point, growth is an element the company experienced in its life cycle. There are three growth sizes that generally used, they are: sales increase, profit increase, and asset increase. The changes occurred on company from year to year reflect the company growth trend. Brealey, Myers, and Marcus proposed that the growth of company value is one of company performance measuring instrument (7). Growth measures of how good company capable to maintain its economic position in industry. Company capability in reaching maximal profit is only enabled if company performance get be better more and more. Investors or investors to be will interested in return (profit level) expected for the futures relative to the company risk. The profit may compensate the addition risk that emerged. Alternative selection between the needs coverage and the debt and capital from the stock, or, in other word, how far company decide to cover the funding sources from debt that will maximize company value, in addition, the presence of changes from debt shall influence company value (8) likewise how far company cover its fund sources in the form of its equity to gain the capital structure balance that may increase company value (9). In the general condition, the capital structure problem include the mutual determination the entire cooperation among shareholders, bondholders, and managers, and also another agents who concerned in the cooperation, include consumers, employees and the like.

Research about the impact of funding sources changes on company profit changes, basically, aimed to measure the impact of retained earnings on company profit changes (1). However, to avoid mistake in explain the correlation of an aspect on profit growth, they put in the additional variables, that is, debt change, and capital change, and risk

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variables. The retained earnings less profitable if compared to external finance. But, as a whole (except growth) the independent variables have positive and significant effects on the ROA of company. Research about 47 financial ratios on company profit prediction in the future, out of 47 ratios there are 13 ratios regarded as significant in influencing company profit changes (10). Simultaneous correlation between managerial ownership, debt policy, and dividend policy; while, the contribution of observation asserts that company will establish the debt and dividend policy until it can gain profit from the retained earnings.

Eventually, the determination of debt and capital levels will influence company profit in the future (7). Due to, in essence, the changes of both the amount and composition of funding sources reflect the investment or divestment decision of capital owner and or the debt determination by management related to the expected return. Marginal concept can be applied for measuring the net income (net profit) change as a result of capital change presence.

Company Profit

Profit in this context is profit in company financial statement (Profit and Loss Statement). The elements of profit and loss calculation can be summarized as follow (11):

- Revenue. Incoming flow or other increase on properties of an entity or settlement of its obligation during a period of goods delivery or production, service providing, or other activities that constitutes the ongoing main or principal operation of the entity.
- Expenses. Outgoing flow or other usage on properties or the occurrence of obligation during a period of goods delivery or production, service providing, or other activities implementation that constitutes the ongoing main or principal operation of the entity.
- Gains. Increment in equity (net property) of the side transaction except gained from revenue or investment by the owner.
- Losses. Decline in equity (net property) of the side transaction except resulted from expenses or distribution to owner.

Net income (NI) is the whole company revenues can be calculated:

NI = Revenue – Expenses + Gains – Losses

Funding Sources

Funding sources reflected on the right side of balance sheet. Generally, funding sources consisted of short term debt, long term-debt, and equity (include common and preferred stocks, and retained earnings)

Short term Debt

Short term expenditure is one of the important factors for company survival. Short term debt is debt whose payment or paying off schedule should be implemented in period of time less than a year. If company activities rise, then these debts will generally rise too, because to finance a part of assets needed for operation. Sensitivities of these accounts may be different, and their increments are not always proportional. Other short term funding sources are the ones that not be spontaneous, that rise not always due to company operational increase, and need formality in acquiring them. Commonly, these funding acquired from bank, in the form of short term credit. Clearly, liquidity costs have the larger impacts on the decision of long term debt if compared to the decision of short term debt.

Long term Debt

Long term debt is long term funding source beside of equity. In general, long term debt used for financing company expansion or company modernization, for the necessity it needed the large enough fund. The long term debt may be derived by means of loan at bank or by means of selling bond. Bond and preferred stock are the funding types with fixed income securities, both of those give revenue with fixed amount to their owners. Company utilizing loan, its financial risk will be more and more high thus the risk rise should be counterbalanced by risk-return trade off, if the role of long term debt in company capital structure increased it also expected may rise the rentability of equity. Bond is debenture

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issued by company of a given amount and will be due in a given time and give revenue of a given interest. Bond paying off can be done by sinking funds system that is loan paying off is done in all at once or by amortization system that is loan paying off is done in installments. In fact, bond is same as long term debt derived via bank; only the sale of this bond is published and directly sold to investor. Usually, bond rate of interest is fixed and paid once a year or twice in a year.

Equity

There are a numbers of basic differences between long term debt and equity, although the two of those are the long term funding sources for company. Equity is one from company owner for the time period of uncertainly duration, consisted of stock capital and retained earnings. Shareholder is the company owner while, creditor funding the long term debt is not the company owner (6). Creditors have claim first on revenues and assets of company if compared to capital owners. It meant that if company undergoes business failure (bankrupt), creditors have the right to make the first claim over company assets on a numbers of debts they lend out (plus interest), while the rests are claims from capital owners.

Differed to long term debt, which have due date in which company must to pay out its obligation, equity is a form of long term funding that is permanent, have no due date. From the tax aspect, debt interest load may decrease company profit; therefore, tax amount paid may also decrease.

The company need to maintain the company basic capital that large enough to get profit and low-cost of debt and make an optimal capital structure (12). Equity may be increased internally by means of retained earnings, and externally by means of common stock and preferred stock sales. Equity in a company of Limited Company may be stock capital, reserves, and retained earnings.

Stock Capital

Common Stock

Common shareholder is the company owner by right. Revenue received by common shareholder is the revenue excess over costs. Common stock is the permanent fund source; due to it will be invested in company for unlimited period of time during the company still run operating activities. Common shareholder shall earn dividend in the end of year, if only the company gain profit. If the company do not gain profit or even undergo loss, then shareholder will not gain dividend.

Preferred Stock

As the long term capital source of the company, preferred stock occupies the position between long term debt and common stock. As is common stock, preferred stock also give the relative constant revenue, in addition, the preferred stock capital cost tend higher than debt cost, due to the risk the preferred stock holder faced is larger than that of bond holder. Preferred stock holder has preference or priority in dividend payment. Preferred stock dividend stated in a given percentage of the nominal value. Other thing like wealth distribution is, if the company liquidated in wealth distribution, preferred stock is given precedence than common stock.

Retained Earnings

Retained earnings are profit acquired by a company, partly may be paid as dividend and partly retained by the company. Differed to other funding sources, retained earnings have the limited amount. Funding by means of retained earnings decrease dividend paid at this time to the capital owner. The availability of retained earnings depended on the company earnings and the dividend payment policy, the presence of high profit will increase equity, and, on the contrary, if the profit gained is low it will minimize equity. The larger the retained earnings amount from year to year it meant that the larger the equity proportion, that meant the stronger the company financial position. The advantages of retained earnings use are: (i) if company undergo loss it no claim and creditor, (ii) in the poor condition the debt use tend to result low ROE (due to the presence of interest cost claim), and (iii) control on company do not decrease because do not issue new stock.

Dividend policy determines profit distribution

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between dividend payment to shareholders and company re-investment. If company chose to distribute profit as dividend, then it will decrease profit retained thus it will lower company growth rate and furthermore will lower stock price. As company investment project has the return exceeding the required return, the project will utilize retained earnings.

Materials and Methods

1.Sampling Method

The population researched was taken from the Pharmacy companies registered on the Indonesian Stock Exchange to date. Sample selection was conducted by using purposive sampling method that is a sampling method fallen within having non-random character and the selection was done upon a given consideration or criteria, the criteria used are as follow:

- companies researched had continually financial statements during the research period that is from 2008-2013. This case intended to know the trend of variables analyzed
- companies researched had financial statements issued on December 31, thus the companies that started their fiscal year operations of January 1 did not included in analysis. This case aimed at avoiding the quarterly calculation
- sample companies had long term debts in the research period.

Definition of Operational Variable

Variables used in this research are as follow:

Company Net Profit (Y)

Company net profit chosen as due to it reflected net income that comprehensively included all company activities.

Short Term Debt (X1)

Short term debt chosen as one of independent variables due to it was one of funding source components. In this discussion the definition of short term debt is seen from its change. The change may be formulated as follow:

$$\Delta X_1 = X_{1it} - X_{1it-1} / X_{1it-1}$$

- **Long Term Debt (X2)**

In this discussion the operational definition of long term debt was seen from its change. The change may be formulated as follow:

$$\Delta X_2 = X_{2it} - X_{2it-1} / X_{2it-1}$$

- **Equity (X3)**

In this discussion the operational definition of equity was seen from its change. The change may be formulated as follow:

$$\Delta X_3 = X_{3it} - X_{3it-1} / X_{3it-1}$$

- **Last Year Net Profit (Y_{t-1})**

Size of net profit change can be calculated by formula:

$$\Delta Y_{t-1} = Y_{it} - Y_{it-1}$$

3. Model Formulation

Model used in this analysis used the Autoregressive Model that can be formulated as follow:

$$Yit = \acute{\alpha} + \beta_1 X1_{it-1} + \beta_2 X1_{it-2} + \beta_3 X2_{it-1} + \beta_4 X2_{it-2} + \beta_5 X3_{it-1} + \beta_6 X3_{it-2} + \beta_9 Y_{it-1}$$

where:

Y = Net profit
X1 = Short Term Debt Change
X2 = Long Term Debt Change
X3 = Equity Change
Y_{it-1} = Last year Net Profit Change
$\acute{\alpha}$ = Constant
β = Regression coefficient
i = 1st company observation
t = period of time

Results

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Table 1. Fund Sources and Profits Changes Data

Y	X1.1	X1.2	X2.1	X2.2	X3.1	X3.2	Yt1
347787	- 1.75	22.23	27.04	- 1313.51	40.48	49.86	89372
45553	22.76	- 199.37	4.27	99.98	26.15	71.49	50522
-28359	- 65.55	- 368.96	5.46	99.05	- 19.97	92.92	209163
169819	- 7.13	11.63	0	- 1433.62	43.27	64.50	98246
347787	- 1.75	22.23	27.04	- 1313.51	40.48	49.86	89372
14305	- 727.65	- 742.14	- 361.15	- 236.48	- 2290.26	- 1322.67	347787
59026	8.04	28.97	15.46	19.06	26.28	45.56	45553
32665	13.47	43.26	1.15	6.55	14.62	-2.43	-28359
99595	- 4.15	- 11.57	84.35	84.35	12.28	50.24	169819
316927	7.97	6.35	- 114.36	- 56.41	20.93	52.94	347787
19905	1.49	- 715.34	24.01	- 250.45	23.58	- 1726.75	14305
93174	24.10	30.20	- 12.02	5.29	32.89	50.53	59026
266933	55.85	61.80	- 347.31	- 342.18	61.33	66.98	32665
35408	- 27.04	-32.31	- 7.61	83.16	- 6.36	6.70	99595
316307	- 2.69	5.49	- 20.57	- 158.44	12.78	31.04	316927
28169	4.35	5.77	26.92	44.47	37.13	51.95	19905
125547	11.66	32.96	11.16	0.48	33.51	55.38	93174
322885	2.38	56.90	12.56	- 291.11	54.29	82.32	266933
42929	45.04	30.18	- 0.18	- 26.92	20.42	11.68	35408
322698	- 6.45	- 9.31	18.58	1.84	10.07	21.57	316307

Source: Processed data

Table 2. Result of Analysis Using Autoregressive

Variables in the Model:				
	B	SEB	T-Ratio	Prob
AR1	-0.68166	0.21774	-3.1306145	0.00956717
X1.1	-783.25057	2322.54860	-0.3372375	0.74228495
X1.2	123.09060	55.68967	2.2102950	0.04919319
X2.1	-326.62362	421.00530	-0.7758183	0.45421341
X2.2	-183.46793	116.96123	-1.5686218	0.14503465
X3.1	550.12698	245.82354	2.2378938	0.04687389
X3.2	33.99556	15.11295	2.2494324	0.01934806
YT.1	-302.46039	110.52340	-2.7366186	0.01934806
CONSTANT	6305.43955	22432.06569	0.2810905	0.78385796

Source: Processed data

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Discussion

Short Term Debt Changes

The availability of short-term funding is one of important factors for the survival of a company. Short term debt is the obligation of company that have due date at longest one year.

Base on Table 2 that regression coefficient between the last one-period short term debt change and the net profit was -783.250 while significance level 0.74228. Thereby, the last one-period short term debt change variable had negative insignificantly effect. The research result did not agree with the research of Baumol, et al, these results indicated that the utilization of last one-period short term debt tend to be less profitable for company (1).

Regression coefficient between last two-period short term debt change and net profit was 123.0906 while significance level 0.4919. Thereby, the last two-period short term debt change had positive significantly effect. The research results agreed with the research of Baumol, et al., these results indicated that the utilization of last two-period short term debt tend to be profitable for company (1).

Effect of Long-Term Debt Changes

In table 2 known that the last one-period long term debt variable has the negative and insignificant effect on net profit. This variable has parameter coefficient -326.6236 while the significance level is 0.4542. The results indicate that the utilization of last one-period long term debt less profitable for company due to the return rate coefficient has negative value. The results do not consistent with the theory that debt utilization (leverage) is relative profitable for company (9). This condition may be due to that case consistent with its characteristic that is the utilization of long term debt in general utilized for funding assets with long term lifespan, in which the procurement or operating need the relative quite long time.

Based on table 2 it is known that the last two-year-period long term debt variable has the negative and insignificant effect on net profit. This variable has parameter coefficient -183.4678 while the significance level is 0.14503. The results indicated that the utilization of last two-year/period long term debt tend to be less profitable for company (9). This condition may be due to that case consistent with its characteristic that is the utilization of long term debt in general to be utilized for funding assets with long term lifespan, in which the procurement or operating need the relative quite long time. The utilization of company debt has drawback, because the higher debt will rise technical insolvency risk; and if the business of company do not in good condition, then operating income become low and insufficient for covering the interest cost until the owner's wealth decreased, thus it need the benefit and cost balance of debt utilization in capital structure (13).

Effect of Equity Changes

From table 2 known that the last one-period equity changes variable has the positive and significant effect on company net profit. This variable has parameter coefficient of 550.1269 with significance level 0.04687. The results indicated that the utilization of last one-period equity changes relatively profitable for company due to the return rate resulted in positive digit. According to Holder, et al., that companies with high capital needs rate will also needed the high liquidity rate in order that they can cover claims from creditors (14). Companies like this funded more using equity, and maintain the high liquidity to prevent the emergence of financial lacking costs.

Based on table 2 it is known that the last two-period equity change variable has the positive and significant effect on company net profit. This variable has parameter coefficient of 33.9955 with significance level 0.04953. The results indicated that the utilization of last two-period equity change relatively profitable for company due to the return rate resulted in positive digit. According to Holder, et al., that companies with high capital needs rate will also need the high liquidity rate in order that can cover claims from creditors (14). Companies like this funded more

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using equity, and maintain high liquidity rate to prevent the emergence of financial lacking costs. To increase liquidity, companies tend to lower dividend payment, meant that they need lesser external funding (foreign fund source) so that can maintain cash internally. That companies need to maintain the company basic capital that quite large for gaining profit from low-cost of debt and make the optimal capital structure (12). Equity can be increased internally by means of retained earnings, and by means of the sales of common stocks and preferred stocks.

Effect of Last Period Profit Changes

Last period net profit changes have coefficient -302.46039 with significance level of 0.019348, meant that last period profit changes have negative and significant effect on company profit. Results of this research that indicated negative effect did not consistent that stated that the retained profit availability depends on company earnings and dividend payment policy, the presence of high profit will raise the equity, and, in the contrary, if profit gained low it will minimize equity. Analysis results indicated that for the decline profit rate, the company side made dividend payment to investors. Dividend may help to provide the good information concerning management to capital market, so that it can be said that dividend is viewed as signal on company prospect (15). That proposed that the dividend payment policy will increase the new equity of capital market, this policy make companies should more often to make capital market monitoring intensively that emerged when new fund.

Based on the explanation of the discussion above, it can be concluded that last one-period short term, last one-period long term, last two-period long term debt changes, and last period profit have negative insignificant effect on company profit. Last two-period short term debt changes, last one-period equity changes, and last two-period equity changes have positive significant effect on company profit.

Conclusion

Based the results of analysis and discussion it can be taken conclusions as Last one-period short term debt changes have negative insignificant effect on company profit. Last two-period short term debt changes have positive significant effect on company profit. Last one-period long term debt changes have negative insignificant effect on company profit. Last two-period long term debt changes have negative insignificant effect on company profit. Last one-period equity changes have positive significant effect on company profit. Last two-period equity changes have positive significant effect on company profit. Last period profit changes have negative significant effect on company profit.

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Conflicts of interests

Authors declared no conflict of interest.

Author's contributions

The whole article is done by Dhani Ichsanuddin Nur.

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