

Do Stickiness Costs Exist in Indonesia?

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— *Review of* —
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ABSTRACT

This paper investigates stickiness costs in chemical and other basic industries in Indonesia. The survey sample consists of 58 of the 59 companies classified as chemical and basic industries listed in Indonesian Stock Exchange in 2014. Non-production costs (selling, general and administration cost- SGA cost) are investigated to assess the occurrence of stickiness costs. Anderson, Banker and Janakiraman's (ABJ) model and linear regression are used to analyze the stickiness costs. The results show that stickiness cost did occur because the managers tend to retain the idle resources than pay adjustment costs for savings when the sales volume decreases.

Keywords: Stickiness Cost, Chemical and Basic Industries, Anderson Banker Janakiraman (ABJ) Model, Non-production Cost

1. INTRODUCTION

Rapid changes in business are leading to fluctuating product demand. However, owing to the wide prevalence of uncertainty, adjusting the resources to keep up with the changes has become a big problem. Normally, increased use of resources would result in increased costs of companies.

Managers are usually reluctant to reduce the use of resources when production declines. Balakrisnan, Labro and Soderstorm (2010) have found that different types of industries might have different effects on stickiness cost. Windyastuty's (2010) research on plastic and glass companies listed by the Indonesian stock exchange concluded that production cost is not sticky while non-production cost is. Pitchekun (2012) studied the stickiness costs in companies listed on the Stock Exchange of Thailand and demonstrated the existence of stickiness costs there. This study analyzes

the stickiness costs on companies belonging to chemical and basic industries listed in Indonesian Stock Exchange for the period 2014.

2. LITERATURE REVIEW

Based on their behavior, costs can be classified into two groups, namely, fixed and variable costs. Fixed cost is defined as a cost that does not change when the business's activity increases or decreases, while variable cost varies with changes in business activity (Carter, 2009: 69). Noreen and Soderstorm (1997) showed that variable cost usually increases or decreases proportionally with an increase or decrease in business activity. Atkinson (1995) states that understanding the behavior of costs in response to changes in the level of production and sales are very important for the company's management in almost any sector.

When the cost decrease caused by a decrease in activity volume isn't greater than the cost increase due to an increase in the volume of activity, it is said that a stickiness cost has occurred (Balakrishnan and Gruca, 2008). Windyastuty (2010) suggests that when this occurs, uncertainty about market demand forces the company to adjust the amounts of resources and managers tend to delay reducing the resources so as to improve the certainty of a decline in demand for the output.

Based on the above literature review and previous research, the following research hypothesis is formulated:

H1: General and administration costs increase when the company's net sales increase higher than the decline in sales and they decrease when sales decrease.

The model adopted in this research based on the model proposed by Anderson, Banker, and Janakiraman (2006) for measuring the stickiness costs associated with sales, general and administrative costs. The ABJ model shows that the response of sales, general and administration costs change with a change in net sales. If sales had increased over the previous period, the dummy value is set to 0, and 1 if they were down. The model adopted in this research assumes that the non-production costs change when there is a change. If sales were down compared to the previous period, the dummy is set to 1, and 0 if it had increased.

Model:

$$\log \left[\frac{NonProd_{i,t}}{NonProd_{i,t-1}} \right] = \beta_0 + \beta_1 \log \left[\frac{Sales_{i,t}}{Sales_{i,t-1}} \right] + \beta_2 * Dummy_{it} * \log \left[\frac{Sales_{i,t}}{Sales_{i,t-1}} \right]$$

Cost is said to be sticky when variations in non-production costs following net sales increases are larger than those when net sales decline. Coefficient β_1 equals the percentage increase in non-production costs arising from a 1 percent increase in net while the sum of the coefficients, $\beta_1 + \beta_2$, equals the percentage increase in non-production costs due to a decrease in net sales by 1 percent. When the sum is positive, non-production costs are sticky.

3. RESEARCH METHODOLOGY

The study population comprises companies belonging to chemical and basic industries as listed by the Indonesian Stock Exchange in 2014. The research sample was determined through purposive sampling.

Tabel 1. Purposive Sampling Criteria

| | Total |
|-----------------------------------------------------------------------|-----------|
| Companies Listed Jan 1 st 2013- Dec, 31 st 2013 | 59 |
| Complete financial report not published | (1) |
| Sample size | 58 |

The variables used consisted of

1. The cost of non-production (cost of sales, general and administrative)
2. Net sales; use a dummy variable in the analysis process.

Dummy variables are variables representing quantifications of qualitative variables. The dummy variables used in this study were derived from sales data depending on whether there was a decline during the period t-1-t, or not. If sales were declining, the dummy variable was set equal to 1, and to 0 if sales had increased. The data were analyzed using the ABJ double log model followed by linear regression.

4. RESULTS AND DISCUSSION

Table 2 shows the results of coefficient estimation from the equation modeling non- production costs.

Tabel 2. Coefficient Estimation Results

| Model | Unstandardized Coefficients | |
|---------------|-----------------------------|------------|
| | β | Std. Error |
| 1 LogSales | 0.478 | 0.089 |
| DummyLogSales | -0.145 | 0.347 |

Table 2 shows that the regression coefficient, β_1 , is larger than 0 while the regression coefficient β_2 is smaller than 0 so that the sum, $\beta_1+\beta_2$, of the coefficients is 0.333 (= 0.478-0.145). This means that the non-production costs will decrease by 0.333 percent following each 1 percent decrease in net sales. Further, when net sales increase by 1 percent, the non-production costs will go up by 0.478 percent. Variations in non-production costs while net sales increase are larger than those occurring when net sales decline.

Based on the above results, it can be concluded that the non-production costs studied in this research were sticky, i.e., Hypothesis H1 can be accepted. This finding means that increases in non-production costs following rise in sales revenue were higher than decreases in non-production costs following similar declines in net sales. This observation signals that, since the current resource volume can only be decreased slowly, the stickiness cost behavior of non-production costs needs to be considered while making profit forecasts before making investment decisions. Stickiness of cost may also occur when the manager keeps taking the unused resources rather than making adjustments following volume decreases.

5. CONCLUSIONS

This study has concluded that stickiness costs were indeed present with respect to the non-production costs in companies belonging to chemical and basic industries as listed in Indonesia Stock Exchange for 2014. The observed behavior of non-production

costs did not follow traditional cost theory. The slow responses of resources observed following declines in the volume of sales pointed to a reluctance on the part of managers to reduce the amounts of resources. This may have been caused by uncertainties about sales demand in the future. The fact that companies are required to make adjustments with a view to reducing the amount of resources consumed encourages managers to delay the reduction of resources to improve certainty following a decline in demand (for sale). However, a major limitation of this study is that the study period was limited to just one year (2014). Future researchers may investigate over a longer period of time, the relationship between cost stickiness and major internal factors affecting companies.

REFERENCES

- [1] Anderson, M. C., R. Banker, R. Huang., and S. Janakiraman. 2006. Cost Behavior and Fundamental Analysis of SG&A Costs, *Journal of Accounting, Auditing & Finance*: 1-28.
- [2] Balakrishnan, R., dan Thomas Gruca, 2008. "Cost Stickiness and Core Competency: A Note", Working Paper, The University of Iowa, Iowa City.
- [3] Carter, W. K. 2009. *Akuntansi Biaya*, Edisi Empat Belas. Jakarta: Salemba Empat
- [4] Noreen E., and N. Soderstrom. 1997. The Accuracy of Proportional Cost Models: Evidence from Hospital Service Departments, *Review on Accounting Studies* 2: 89-114.
- [5] Pichetkun, P. (2012). The Determinants of Sticky Behavior on Political Costs, Agency Costs, and Corporate Governance Perspectives. Dissertation. Rajamangala University of Technology Thanyaburi
- [6] Windyastuti. 2010. Stickiness Kos Produksi dan Non Produksi (Studi pada Perusahaan Plastik dan Kaca yang Terdaftar di BEJ). *Buletin Ekonomi* . Vol. 8, No. 3: 170-268