

# Is the Stock Option Effective to Maintain Key Management? Evidence from Indonesia Listed Companies

Y.K. Feliana & F. Lianggono

*University of Surabaya, Surabaya, Indonesia*

**ABSTRACT:** Management stock option is a form of compensation which has a hypothetical function to maintain key management, that in the end, the goal is improving company performance. This study aims to prove the hypothesis using Indonesia listed companies' data over the 2012-2016 period. The turnover rate measures management retention. The effectiveness of management stock options is examined during the vesting and exercised period, while management stock options are measured in three ways, i.e., a dummy of the existence of stock option, the amount of stock option, and the number of shares that are offered as stock options. Management stock options are found limited in Indonesia listed companies. Overall, the results showed that granting management stock options are only useful in retaining the management only during the vesting period. This study contributes to the remuneration and nomination committee in regulating the optimal management stock options.

*Keywords:* Management stock option, management retention, performance.

## 1 INTRODUCTION

Nowadays, management compensations are not only in terms of salary but also in another term that makes managements have a longer focus on corporate performance. One popular type of compensation is a stock option. This type of compensation is argued would increase management sense of belonging to the company. The stock option is granted to maintain highly qualified key managers in a long time. Maintaining high qualified key manager is important due to the high-cost burden to the company. Recruitment and training costs for new employees are estimated at 150-175% higher than average an employee's annual salary (Hansen, 1997). Furthermore, termination costs and loss of productivity reduction are, on average, 50-200% of an annual employee salary. It can be higher for the turnover costs of valuable employees (Oyer & Schaefer, 2004).

Some previous studies have examined the effectiveness of the stock option to keep employees. Aldamatz et al. (2018) provided evidence that granting broad-based employee stock options decreases employee turnover in US companies. Balsam et al. (2007) showed that voluntary employee turnover during the vesting period is lower than the post-

vesting period; thus, it can be said that the stock option postpones the employee to resign voluntarily.

In Indonesia, research of the role stock option is dominated by the effect of the stock option to the company performance (Asyik, 2010; Kameswari & Astikaa, 2014; Kresnawati et al., 2016). There were only limited studies that examined the effect of the stock option to employee turnover in Indonesia. One of these studies was done by a team from Indonesia Securities Exchange Commission (i.e., Bapepam at that time) in 2002. The results of this study showed that employee stock options could reduce employee turnover. However, this study reports some limitations, i.e., a low response rate of the questionnaire and only focused on employee stock options. This study report has not covered management stock options that are more valuable in retaining them in a long time. Therefore, this study examines whether the management stock options are effective in maintaining the managers in Indonesia listed companies.

This paper is organized as follows, discussion of relevant literature in order to support the hypothesis, research methods, results and discussion, and finally, the conclusion of this study.

### 1.1. Agency theory and compensation plan

Based on Agency Theory (Jensen & Meckling, 1976), managers as agents and shareholders as principals should design contracts to motivate a rational agent to act on behalf of a principal when the agent's interests would otherwise conflict with those of the principal (Scott, 2015). One of the contracts is an employment contract in terms of a compensation plan. An executive compensation plan is "an agency contract between the firm and its manager that attempts to align the interests of owners and manager by basing the manager's compensation on one or more measures of the manager's performance in the operating firm" (Scott, 2015).

Many compensation plans are based on two performance measures, i.e., net income and share price (Scott, 2015). Share options make the compensation plan based on the share price. More share-based compensation produces a longer decision horizon, as demonstrated by Bushman & Indjejikian (1993).

Since share price will quickly reflect unrealized profit on long-term projects, managers can be encouraged to invest in risky projects. Employee stock option provides this incentive since if they succeed, they can become precious. Yet, if they do not succeed, the lowest the employee stock option can be worth is zero. Effendi et al. (2007) found that the larger the value of a CEO's employee stock option holdings, the higher his/her incentive to misstate the financial statements in order to support the stock price. However, Rajgopal & Shevlin (2002) stated the effect of employee stock options to encourage risk-averse managers to undertake risky projects when the projects were economically desirable, not to encourage excessive risk-taking.

### 1.2. Stock option

A stock option is the option or right of key employees to purchase an ordinary share at a given price over an extended period of time (Kieso et al., 2018). The shareholders' general meeting should approve of the decision to give stock options. The stock option has two periods, i.e., vesting and execution periods. The vesting period is the period, which all the specified vesting conditions of a share-based payment award must be satisfied (IASB, 2018). This period is between the grant date and the vesting date. During the vesting period, the employees cannot exercise their options. The execution period is the time period when the employees can exercise their options. The execution period is concluded by one date when the options are expired.

### 1.3. Stock option and turnover

A Management stock option reduces management turn-over during the vesting period. Balsam et al. (2007) scrutinized that employee turnover is lower during the vesting period than an exercise period. They used Fortune 100 companies as samples. This result is supported by broad-based employee stock options (BBSO) in Aldamatz et al. (2018), where they showed that granting stock option reduces employee turnover by 2% per year in the three years after granting it, after that, employee turn-over increases 87%. Therefore, a stock option is successfully postponing, not preventing employee turnover. In terms of management stock option, Jochem et al. (2017) provided evidence that share-based payment can effectively retain executives.

Based on the results of these previous studies, the same relationship was predicted in Indonesia listed companies, as stated in the following hypothesis:

H1: Management stock options affect management turnover.

Specifically, this H1 was examined in 2 periods.

H1a: During the vesting period, the management stock option reduces management turnover.

H1b: During the exercise period, the management stock option increases management turnover.

In order to consider the magnitude of management stock options, this study examined the effect of the amount of management stock option compensation expense and the number of shares that are offered as management stock options to the management turnover. Both of them occurred in the vesting period.

H2: Management stock option expenses affect management turnover

H3: Number of shares that are offered as a management stock option affects management turnover.

In the exercise period, further analysis was done by examining the effect of the execution rate of management stock options on the management turnover.

H4: Execution rate of management stock options affect management turnover.

## 2. RESEARCH METHODS

The population of this research was Indonesia listed companies in 2012-2016 across the type of industries. There were some requirements to be the sample of this study where sample selection was reported in Table 1. Data were collected from companies' annual reports that are available on the Indonesia Stock Exchange web site or the companies' web sites.

Table 1. Sample Description

Description	Number (firm-years)
Population	2,381
Requirements:	
1. Reporting currency other than IDR	-370
2. No data available	-70
Beginning sample	1,941
<u>Regression Model (1)</u>	
Beginning sample	1,941
Outliers	-200
Final sample	1,741
<u>Regression Model (2)</u>	
Beginning sample	1,941
Not in the vesting period	-1,929
Final sample	12
<u>Regression Model (3)</u>	
Beginning sample	1,941
Not in the execution period	-1,863
Outliers	-1
Final sample	78

Regression equation (1) to test H1a and H1b is as follows:

$$TURNOVER_{it} = VEST_{it} + EXEC_{it} + SIZE_{it} + PROFIT_{it} + LEV_{it} + MCAP_{it} + IND_{it} \quad (1)$$

Where is:

$$Turnover_{it} = \frac{OUT_{it}}{(TKM_{it} + TKM_{i,t-1})/2} \times 100\%$$

The measurement of  $TURNOVER_{it}$  is adopted from Jochem, Ladika, and Sautner (2017).  $OUT_{it}$  is the number of key managements that are not on the list of the board that year.  $TKM$  is the number of total key managements. Key management should include the top management of the company. Due to Indonesia applied two-tiers board system, the key management in this research is people in the executive board and commissioner board, excluding independent commissioners. Independent commissioners do not include because, according to security exchange authority rules (Bappepam IX.1.6), the independent commissioner is prohibited from having direct or indirect ownership to the company; thus, they will not grant management stock options.

The independent variable of  $VEST_{it}$  is a dummy variable that is coded by 1 if the company is in the vesting period; otherwise, it is 0. The second independent variable  $EXEC_{it}$  is also a dummy variable that is coded by 1 if the company is in the exercise period; otherwise, it is 0. If a company in a year has some stock options that are some in the vesting periods and some in the exercise period, it will be counted as in exercised period for conservatism reasons.

Control variables in the regression equation (1) are adopted from Aldamatz et al., (2018).  $SIZE_{it}$  is

measured by the log of total assets at the end of that year.  $PROFIT_{it}$  is profitability that is measured by the ratio of earnings before tax to total assets.

$LEV_{it}$  is the leverage that is measured by the ratio of total liabilities to total assets.  $MCAP_{it}$  is a log of market capitalization that is measured by closing stock price at the end of the year multiply by outstanding share at the end of the year. Finally,  $IND_{it}$  is a dummy variable to identify the type industry of the company. i.e. 1 for agriculture, 2 for mining, 3 for basic industry and chemical, 4 for miscellaneous industry, 5 for consumer goods, 6 for property and real estate, 7 for infrastructure and utilities, 8 for finance, and 9 for trade and services.

H2 and H3 are examined in the regression equation (2) as follows:

$$TURNOVER_{it} = COMPEXP_{it} + SHARES_{it} + SIZE_{it} + PROFIT_{it} + LEV_{it} + MCAP_{it} + IND_{it} \quad (2)$$

The independent variable  $COMPEXP_{it}$  is stock compensation expense that is measured by the log of management stock option compensation. This information is collected from the notes to the financial statements. The second independent variable of  $SHARES_{it}$  is the log of number outstanding stock options. The other variables are the same as in the regression (1).

H4 is examined in the regression equation (3):

$$TURNOVER_{it} = EXECURATE_{it} + SIZE_{it} + PROFIT_{it} + LEV_{it} + MCAP_{it} + IND_{it} \quad (3)$$

The independent variable fo  $EXECURATE_{it}$  is the ratio of shares that are executed to number outstanding stock option. The other variables are the same as equation (1) and (2).

### 3. RESULTS AND DISCUSSIONS

Descriptive statistics for all variables in each regression model are shown in Table 2 and 3.

Table 2. The Measurement Model

Variable	Mean	Max	Min
<i>Regression Model (1)-N = 1,741</i>			
Turnover	7.10%	0%	36.36%
Size (Mio IDR)	17,024,045	6,817	1,038,706,009
PROFIT <sub>it</sub>	4.31%	-1096.53%	209.27%
LEV <sub>it</sub>	57.12%	0.02%	1683.44%
MCAP (Mio IDR)	11,799,108	1,661	445,498,235
<i>Regression Model (2)-N=12</i>			
Turnover	8.20%	0%	63.16%
COMPEXP (Mio IDR)	21,976	2,827	54,932

Cont.

SHARES <sub>jt</sub>	98,132,733	1,000,000	240,953,500
Size (Mio IDR)	33,112,225	2,022,388	111,748,593
Profit	5.91%	0.02%	12.20%
LEV <sub>jt</sub>	64.4%	8.22%	90.82%
MCAP (Mio IDR)	8,546,111	603,007	25,113,235
<i>Regression model (3)-N=78</i>			
Turnover	12.89%	0%	50%
Execu-Rate	31.48%	0%	100%
Size (Mio IDR)	37,605,189	421,873	241,571,728
Profit	5.32%	-13.02%	25.23%
LEV <sub>jt</sub>	58.45%	11.29%	91.93%
MCAP (Mio IDR)	11,878,700	225,288	37,011,090

Companies that have management stock options in 2012-2016 were limited.

Table 3. Descriptive Statistics for Nominal Variables

Model (1)	VESTit		EXECit	
	Freq.	%	Freq.	%
<i>Panel A</i>				
0	1,731	99.4%	1,667	95.7%
1	10	0.6%	74	4.3%
Total	1,741	100%	1,741	100%
<i>Panel B</i>				
INDit	Regression Model	Regression Model	Regression Model	
	(1)	(2)	(3)	
1	88	3	8	
2	43	0	0	
3	193	0	0	
4	89	0	0	
5	149	0	2	
6	222	1	16	
7	131	1	2	
8	343	6	29	
9	483	1	21	

Companies granted management stock options are bigger in terms of size and market capitalization. In Indonesia, large companies have a higher dependency on valuable key management. This phenomenon is different from the findings in developed countries where management stock option is more common in a small company. The reason is that a small company has limited resources to give compensation to the management (Scott, 2015). Besides, higher market capitalization companies tend to provide more management stock options because this type of compensation is more valuable to their managers. In terms of profitability, there is no significant difference between the low and high profitability companies in granting management stock options. Higher leverage companies have more compensation in management stock options; this can be to a longer view of man-

agement until the external funding gives payback return to the companies

Table 4. Description of Companies granted Management Stock Options

		VEST	EXEC	TOTAL
Size	Small	1	6	7
	Big	11	73	84
Profit	Low	5	39	44
	High	7	40	47
Leverage	Low	2	24	26
	High	10	55	65
Market Cap	Small	1	11	12
	Big	11	68	79

Table 5 shows the regression result for model (1). Companies in the vesting period have lower management turnover compared to the others, but companies in the execution period have higher management turnover, thus H1a and H1b are accepted.

This results are consistent to findings of Balsam et al. (2017); Jochem et al. (2017); Aldamatz et al. (2018). These results indicate that management stock options are effective in retaining key management. However, they will resign from the companies after they exercise their stock options.

Table 5 Regression result model (1)

	Coefficients	p-value
Constants	-14.838	0.000*
VEST <sub>jt</sub>	-7.814	0.007*
EXEC <sub>jt</sub>	2.814	0.010*
SIZE <sub>jt</sub>	2.315	0.000*
PROFIT <sub>jt</sub>	0.010	0.088
LEV <sub>jt</sub>	0.005	0.106
MCAP <sub>jt</sub>	-0.693	0.068
IND <sub>jt</sub>	0.205	0.018*
F-test	8.505	0.000*
Adjusted R <sup>2</sup>		0.029

During the vesting period, key management cannot exercise their options. If they resign during this period, they will lose their right to get stock options. In the period of execution, management has the right to exercise when option “in money”, otherwise when option “out money”. They can also exercise all or a part of their stock options. In the execution period, management has no bonding to the company anymore, so they can resign at any time without losing their rights because the options have vested. The execution rate of Indonesia listed companies during 2012-2016 is relatively low (Figure 1). The low execution rate indicates two possibilities. First, the market price of the stocks was not significantly higher comparing to exercise price. Therefore, the managers

decided not to use their rights. Second, they were waiting until they think the market price is higher enough because there are some periods of time until the stock options are expired.

The coefficient of VEST is 2.78 times larger than the coefficient of EXEC. The effect of management stock options during the vesting period to retain key Management is higher than the number of key managements that resign during the execution period. It provides a suggestion for nomination and remuneration committee in order to manage time period of vesting so it will be optimal for the company. The vesting period is not too short, so the company will get enough benefits in retaining key management long enough, but also it should not too long, because it makes the management stock options are not valuable any more for them, then they just ignore it and back to over-investment in short-term.

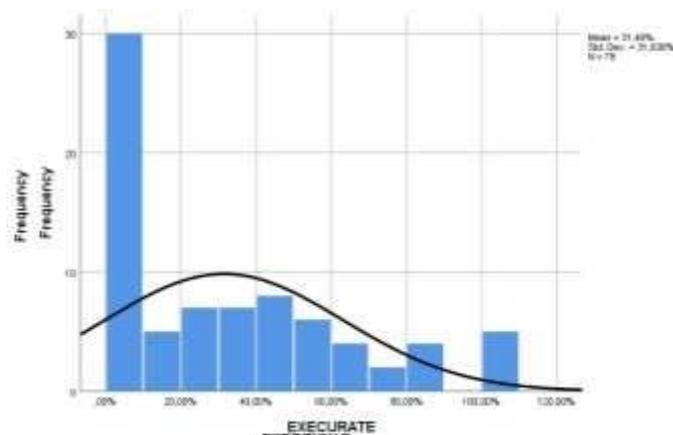


Figure 1 Execution rate of management stock options

The results of the regression model (2) for H2 and H3, in Table 6, cannot be concluded. There is a multicollinearity problem, and the model does not pass the goodness of fit test as reported in adjusted R2 and F-test. The cause is not enough samples. Only 12 firm-years that are in the vesting periods during 2012- 2016.

Table 6 Regression model results (2)

	Coefficients	p-value
Constants	0.926	0.997
COMPEXP <sub>jt</sub>	4.024	0.753
SHARES <sub>jt</sub>	-37.329	0.318
SIZE <sub>jt</sub>	122.126	0.239
PROFIT <sub>jt</sub>	1.989	0.654
LEV <sub>jt</sub>	-0.076	0.923
MCAP <sub>jt</sub>	-103.910	0.312
IND <sub>jt</sub>	-4.629	0.432
F-test	0.779	0.638
Adjusted R <sup>2</sup>		-0.164

H4 also cannot be concluded by the result of the regression model (3) in Table 7. The sample shows normality and heteroscedasticity problems, so the results are biased and not consistent. In addition, the F-test for the model (3) failed. The possible reason is not enough sample for this model, only 78 firm-years report in the period of execution during 2012-2016.

Table 7 Regression model results (3)

	Coefficients	p-value
Constants	-7.008	0.854
EXECURATE <sub>jt</sub>	-0.015	0.761
SIZE <sub>jt</sub>	6.064	0.145
PROFIT <sub>jt</sub>	0.284	0.382
LEV <sub>jt</sub>	0.064	0.484
MCAP <sub>jt</sub>	-5.507	0.233
IND <sub>jt</sub>	0.873	0.199
F-test	1.288	0.274
Adjusted R <sup>2</sup>		0.022

#### 4. CONCLUSIONS

This study finds that management turnover decreases during the vesting period and increases during the execution period. The decrease in turnover is higher than the increase in turnover. It can be concluded that management stock options are effective in retaining key management, but only to postpone them to resign, not prevent them. The major limitations of this study are limited companies in Indonesia that were granted management stock options as one type of compensation to the key management.

#### REFERENCES

- Aldamatz, S., Quimet, P., & Van Wesep, E.D. 2018. The option to quit: The effect of employee stock options on turnover. *Journal of Financial Economics* 127: 136-151.
- Asyik, N.F. 2010. Dampak Struktur Modal pada Sensitivitas Penerapan Kompensasi Opsi Saham Karyawan terhadap Kinerja. *Ekuitas* 14(1): 1-21.
- Badan Pengawas Pasar Modal dan Lembaga Keuangan. 2012. *Penyampaian Laporan Tahunan Emiten atau Perusahaan Publik*. Jakarta: Bapepam.
- Balsam, S., Gifford, R., & Kim, S. 2007. The effect of stock option grants on voluntary employee turnover. *Review of Accounting and Finance* 6(1): 5-14.
- Bushman, R.M. & R.J. Indjejikian. 1993. Accounting income, stock price and managerial compensation. *Journal of Accounting and Economics* January/April/July: 3-23.
- Effendi, J., A. Srivasta & E.P. Swanson. 2007. Why do corporate managers misstate financial statement? The role of option compensation and other factors. *Journal of Financial Economics* 85: 667-708.

- Hansen, F. 1997. Currents in compensation and benefits. *Compensation and Benefits Review* 29: 6- 18.
- IASB. 2018. IFRS 2: Share Based Payment.
- Jensen, M.C. & W.H. Meckling, 1976. Theory of the firm: managerial behavior, agency costs and ownership structure. *Journal of Financial Economics* 3(4): 305-360.
- Jochem, T., Ladika, T. & Sautner, Z. 2017. The Retention Effects of Unvested Equity: Evidence from Accelerated Option Vesting. *The Review of Financial Studies (Forthcoming)*.  
Diambil kembali dari <https://dx.doi.org/10.2139/ssrn.2608555>
- Kameswari, L.P. & Astika, I.B. 2014. Pengaruh Jumlah Opsi Saham dan Harga Eksekusi pada Kinerja Perusahaan. *E-Jurnal Akuntansi Universitas Udayana* 9(2): 356-372.
- Kieso, D. E., Weygandt, J. J. & Warfield, T.D. 2018. *Intermediate Accounting IFRS Edition: third edition*. New Jersey: John Wiley & Sons Inc.
- Kresnawati, E., Baridwan, Z., Suwardjono & Warsono, S. 2016. Pengaruh Program Opsi Saham Manajemen terhadap Kinerja Perusahaan: Analisis Teori Keagenan dan House Money Effect. *Simposium Nasional Akuntansi XIX*, 1-27. Lampung.
- Oyer, P. & Schaefer, S. 2005. Why do some firms give stock options to all employees?: An empirical examination of alternative theories. *Journal of Financial Economics* 76: 99-133.
- Rajgopal, S. & T. Shevlin. 2002. Empirical evidence on the relation between stock option compensation and risk taking. *Journal of Accounting and Economics* June: 145-171.
- Scott, W.R. 2015. *Financial Accounting Theory: 7th Edition*. Toronto: Pearson Canada Inc.
- Tim Studi Penerapan ESOP Emiten atau Perusahaan Publik di Pasar Modal Indonesia. 2002. *Studitentang Penerapan ESOP (Employee Stock Ownership Plan) Emiten atau Perusahaan Publik di Pasar Modal Indonesia*. Jakarta: Departemen Keuangan Republik Indonesia Badan Pengawas Pasar Modal Proyek Peningkatan Efisiensi Pasar Modal.